DIGITAL PHOTO

OLYMPUS PEN

WELCOME TO
HDR

24 PAGE GUIDE

Your path to a brand new visual style

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Capture family portraits by candlelight

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How to make images burst with colour, contrast & detail

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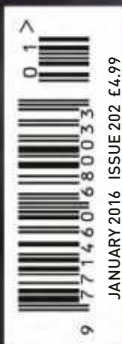Get jaw-dropping detail in every shot

TACKLE A PHOTO CHALLENGE
Add imagination to a simple subject

MAKE A TIME TUNNEL
Mind-bending pics made easy!

TURN PORTRAITS INTO POP ART!
Create vibrant images of friends & family

WELCOME FROM THE EDITOR

There's a little note taped to one of my tripod legs that says 'Think HDR'. It's been there for a few years now, but serves as a useful reminder. In the past, I'd only shoot multi-picture HDR sequences when specifically going out to get them, but thanks to this little memory jogger, I now do it all the time. High Dynamic Range imaging requires a different camera setup to the one you'd use normally, but the resulting shots offer so much scope that it's worth exploring whenever you're out shooting. In this issue, we explain all you need to know about HDR capture and processing, and by trying the projects and techniques, you'll discover a completely different form of photography that fuses shooting and post-production together.

HDR does require bespoke, specialist software, and to make sure you can get stuck in and reap the benefits immediately, we've teamed up with our friends at *HDRsoft.com* to give you a free, fully working download of the Photomatix Essentials plugin. This great software works with Photoshop and Elements, and will have you creating brilliant HDR pics in no time.

Read our big feature on p26, watch the videos, then get out and develop a new style!

Jon Adams, Editor
jon.adams@bauermedia.co.uk

ON OUR COVER

The weathered rocks on Embleton beach make the perfect foreground for the tower of Dunstanburgh Castle in Northumberland. Pro travel photographer Jimmy McIntyre captured this shot on his Nikon D800 using a 14-24mm f/2.8 lens. The HDR image was created using Luminosity Masks in Photoshop. For more great pics, visit *throughstrangelenses.com*

3 WAYS TO GET BETTER PHOTOS THIS MONTH

1 Outstanding shooting ideas to try right now!
Narrow your focus to add an air of mystery and intrigue to your portrait pics on p68.

2 Top imaging projects to transform your shots
Shooting into the light can wash out contrast. Find out how to get it back in Lightroom on p92.

3 The best reviews on the gear that really matters
CSCs give the advantages of a DSLR in a small bundle. We test the best under £400 on p114.

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10 VIDEO TUTORIALS ON YOUR FREE CD

125 MINUTES OF EXPERT ADVICE

Pop the PhotoSkills CD in your PC or Mac and get set for the ultimate learning experience. There are 10 in-depth video lessons on the disc, all brought to you by the same team of expert photographers that make the mag. Watching our experts talk you through a technique will help you master the skills you need, and you can view the videos as many times as you like.

This month, we help you learn an essential set of skills in Photomatix, Photoshop, Elements and Lightroom. Sit back and watch the tutorials on screen, then follow the mag's step-by-steps in your own software using the supplied start images.

Once you've completed the project, try it again without using the mag or video for reference. You'll be surprised how quickly you develop the skills professional photographers use every day!

1 Balance your tones
Even out the lighter and darker tones selectively for a balanced exposure.

2 Your free software
Create high-impact HDR pics with your free Photomatix download.

3 HDR from one RAW
Harness the power of Camera Raw to get the most from a single RAW.

4 Get the natural look
Make a natural HDR using subtle blends in Photomatix and Photoshop.

5 Max dynamic range
Discover 'MaxDR' and blend an HDR image with its source pics.

6 Reduce digital noise
Use Lightroom's tools to control Noise on a festive candle-lit portrait.

7 Get a graphic portrait
Create a graphic pop-art style pic by using your 50 free paint effects.

8 Make a snowglobe
Add winter scenes to a virtual snowglobe with our free template.

9 Create a tunnel
Make a repeating tunnel optical illusion for a portrait with a difference.

10 Learn Lightroom
Restore the detail and colour to tricky into-the-light pics in Lightroom.

✚ Also on your amazing interactive disc this month...

Start images
Use these files to practise the projects with your own software.

Reader gallery
Inspiring pics from *Digital Photo* readers.

50 FREE Paint effects
Create your own templates using our free paint effects, and mix up a dramatic pop-art look to your portraits.

IAN CHOW

PLANET PHOTO

Your fresh take on inspiration from the world's best photographers

THE BIG PICTURE
Stillness in the city

Photography has the power to show familiar scenes in a new way and that's exactly what **Carlos Martin** captured when the US-based shooter visited London.

"I awoke early to shoot some of the iconic landmarks during 'Blue Hour', my favourite time of the day." Carlos says that by using a long exposure, he could remove the traffic and people from the frame. By using a 10-stop ND filter, he was able to artificially darken the scene and allow a long shutter speed of 180secs, turning the waters of the Thames into a smoothly blurred mirror. In Photoshop, Carlos removed some of the debris still visible on the river. "I also had to clone out some annoying birds who still appeared in the image despite the three minute exposure length."

Camera Nikon D800E & 35mm f/1.4mm lens
Exposure 180secs @ f/8, ISO 100 **Software** Photoshop
Visit 500px.com/carlosmartin973

⊕ GET THIS SHOT

Get to sunrise shoots early and pack gear the night before to save time.

Don't forget a sturdy tripod – it's essential when shooting long exposure images.

Take a remote release cable or use the camera's Self-timer to avoid vibrations causing blur in the shot.

By using a 10-stop ND filter to create a long shutter speed, Carlos captured a fresh view of a popular landmark.

By reacting quickly to the poor weather conditions, Eric was able to capture a stunning moment.

ERIC TAN

CREATIVE PORTRAITS
A flash of inspiration

As any photographer will tell you, wedding days rarely run smoothly and you often have to think on your feet. This was the situation **Eric Tan** faced when the Taiwan-based shooter was greeted by stormy conditions. "The weather was poor. To make matters worse, time to get photos was slipping away and the stormy skies were growing darker by the second," he recalls. Relying on his eight years of pro experience, Eric used the rain to his advantage and backlit the couple using flashguns, which also highlighted the raindrops as they fell. In Lightroom, Eric's main task was to balance the exposure as there were a lot of dark areas in the shot. To achieve this, he utilised the Exposure, Highlights and Shadows sliders before opening the image into Photoshop to perfect the portrait with a little cloning.

Camera Nikon D800 & 35mm lens
Exposure 1/125sec @ f/4, ISO 800
Software Lightroom **Visit** 500px.com/erictan2

✚ GET THIS SHOT
Eric used an off-camera flashgun to backlight his subjects. To fire this flash remotely, a wireless radio trigger is necessary. By shooting in Manual mode, you can set the camera to its flash-sync speed and alter aperture to adjust its power.

Combining a short flash duration with a fast shutter speed can freeze liquids in place, giving dramatic results.

ALEX KOLOSKOV

"I'm a mix of technique, innovation and out-of-the-box thinking"

US-based professional photographer **Alex Koloskov** shares the secrets of his high-speed fine-art imagery

How did the image come about?
This image was made as a part of *The Art Of Sculpting Splashes* photography workshop that I run online for *Photigy.com* – a website I co-founded.

How did you achieve the effect?
It needed an ultra-short flash duration. I used Broncolor strobe lighting units – they are the best for high speed photography and allowed me to freeze the moment at 1/6000sec. The unique splash shape was made by hand when I was throwing acrylic paint into the air.

How did you enhance the shot in image-editing software?
There was some extensive blending work carried out using Photoshop CS6. This used several splash images and a shot of a flower. The majority of the processing work involved clipping, blending and making shape modifications using Photoshop's Puppet Warp tool.

What are the best tips you'd offer for creating this kind of image?
Don't forget to protect your gear – one spill can kill a strobe light instantly! I cover everything with sheets of plastic wrap. Try not to use a really fast shutter speed on the camera like 1/4000sec, as it won't work unless you have a special high-speed trigger. There are devices to trigger the shutter by motion detection, but I use a manual trigger to fire the shutter by hand. *www.photigy.com*

⊕ GET THIS SHOT

Using strobe lighting with a short flash duration time is key to this technique. Set your camera to its flash sync shutter speed (around 1/200sec) and start with an aperture of f/11. Set the lens to Manual Focus. If your splash is too dark, raise ISO or use a wider aperture.

A 14-24mm lens provided Tommy with an ultra-wide view of the sky and the snow-covered scene.

CREATIVE PORTRAITS
Alien interaction

For photographers seeking an intergalactic experience, the closest Mother Nature can offer is the spectacular Aurora Borealis, also known as the Northern Lights. The best light displays occur around the Arctic Circle and Hemnesberget, in northern Norway, is home to pro photographer **Tommy Eliassen**, who captured this stunning self-portrait. "On this day, a coronal mass ejection hit Earth's magnetic field, sparking the strongest geomagnetic storm of the current solar cycle. I've been to this location many times before trying to get this shot right, without any satisfying results, but on this night everything fell into the right place," he says. To include himself in the frame, Tommy positioned the camera at a very low angle and tilted it almost straight up before triggering the shutter with a wireless remote. In Lightroom, Curves adjustments were made before applying Noise Reduction. He then used the Spot Removal tool to clean up any speckles before adjusting the White Balance using the Temperature slider.

What was used

Camera Nikon D800 & 14-24mm lens
Exposure 8secs @ f/4, ISO 2000 **Software** Lightroom
Visit www.tommyeliassen.com

⊕ GET THIS SHOT

Raising the ISO level is critical when capturing images of the Northern Lights as the camera's sensor needs to be made ultra-sensitive. Today's DSLRs can produce great image quality, even at ISOs of 1600 or upwards. Plus, digital Noise can be reduced significantly using software.

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To the alert eye of an expert, great compositions can be found anywhere.

CREATIVE COMPOSITION
Life on the streets

On the busy streets of our capital city, photo opportunities abound. One shooter taking advantage of these is **Naf Selmani**. "I get my inspiration from everyday life in London, where strong cultural and historical backgrounds are still present. My images consist of bits and pieces of the world around me – a colourful collection of street photography mixed with interesting people and captivating moments." Naf captured this scene in Covent Garden, juxtaposing the idealistic fashion poster with a slice of real life, and has some useful advice for aspiring street photographers. "Travel light and try to blend into the crowd as much as possible. Have your camera set up and be ready to shoot and go. Observe, relax and be very patient. You will be amazed the images that might reveal themselves in the street."

What was used

Camera Nikon D7100 & 50mm f/1.8 lens **Exposure** 1/125sec @ f/4, ISO 200 **Software** Photoshop **Visit** 500px.com/naf_selmani

➕ GET THIS SHOT
Prime lenses are perfect for street photography. Their smaller size attracts less attention, and their large maximum apertures allow faster shutter speeds for sharp, handheld shots. Naf used a 50mm f/1.8, which offers excellent image quality that's free of distortion.

NAF SELMANI

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Peter Hawk, advertising photographer
PETER-HAWK.COM

CAMERA: X-T10 LENS: XF23ᴍᴍ EXPOSURE: 1/180 SEC AT F4, ISO 400

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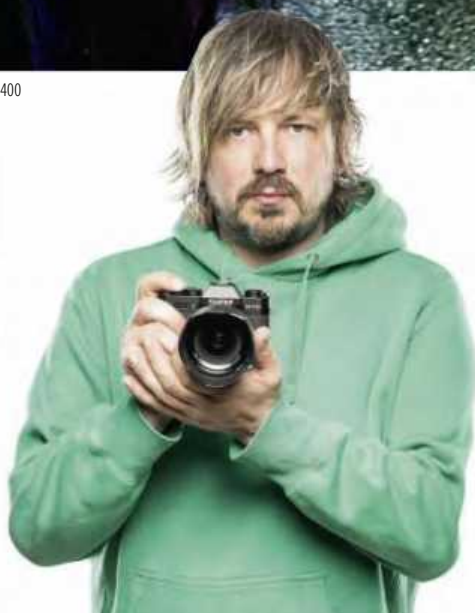
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The low evening light revealed texture in the stonework of Alberto's foreground interest.

ALBERTO GHIZZI PANIZZA

A view to a thrill

When it comes to capturing a fresh angle of a city view, composition and light are the biggest factors that will make a difference. Italian pro photographer **Alberto Ghizzi Panizza** mastered both these elements when shooting a stunning angle of Florence – a city considered to be the birthplace of the Renaissance. To achieve a high enough perspective over the centuries-old centre of the city, Alberto climbed to the top of the dome in Florence's cathedral, just as the evening sun bathed the city in warm light.

"The biggest challenge I had was shooting without a tripod," explains Alberto. "Tripods aren't allowed inside the cathedral, so I had to be mindful of my shutter speed to avoid camera shake." To capture the vast view, Alberto selected an ultra wide-angle 8-16mm lens. The optical curvature helped enhance the curve of the dome in the foreground and produced a dramatic, vertigo-inducing view.

In Lightroom, Alberto used the Highlights slider to recover detail in the brighter areas in the RAW file and also boosted the Clarity slider to enhance midtone detail in the stone textures.

What was used
Camera Nikon D5500 & 8-16mm lens
Exposure 1/125sec @ f/5.6, ISO 800
Software Lightroom
Visit www.albertoghizzipanizza.com

⊕ GET THIS SHOT

An ultra-wide-angle lens can make all the difference with this type of stylised image. While these specialist optics can be expensive, there are more affordable options, too. Samyang's 14mm f/2.8 lens (*www.samyang-lens.co.uk*) is a Manual Focus model, but can be bought for £280.

An interesting prop, such as this mirror, can change the dynamic of an image in an instant.

Mirror vision

Creating conceptual imagery takes a combination of vision and technical skill. **Igor Burba**, a former soldier in the Russian army and now a professional photographer, possesses both attributes in abundance. Igor leads workshops across Russia and Ukraine to teach enthusiasts about capture and Photoshop techniques, and this image was created at one of his recent courses.

Igor tried a number of setups to get the mirror in the correct position, but in the end, he decided to risk bad luck and break the glass into shards so the model's face would fill the mirror, without revealing the photographer in the background.

In Photoshop, Igor edited the RAW file to correct colour balance, and adjusted the Highlights in Camera Raw to extract more detail from the scene. Finally a brown-green tint was added using a Fill Layer to give the scene a more stylised effect.

What was used
Camera Nikon D4 & 35mm f/1.4 lens
Exposure 1/160sec @ f/1.4, ISO 160 **Software** Photoshop
Visit www.igorburba.ru

⊕ How the image came together...
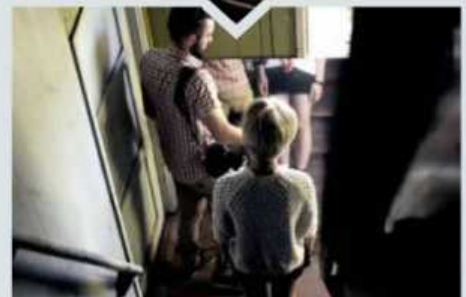
By experimenting with poses and then smashing his mirror, Igor fine-tuned his image to perfection.

⊕ GET THIS SHOT

Shoot with a large aperture to create a shallow zone of sharpness. Focus on the eyes in the mirror to make the reflection the focal point.

Find an angle to shoot from where your own reflection can't be seen, but don't compromise your composition in doing so.

IT WORKS FOR ME!

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Splash!
by Andrew Timothy

From Coventry, West Midlands

Tell us about your image It was a combination of the 'Out of the ordinary' wine glass challenge and the water splash technique in the 'Planet Photo' section of the November 2015 issue that inspired me. I used inexpensive materials that were to hand – the background was a duvet cover, a stool supported the glass and off-camera flash captured the action.

I chose a red chilli for impact. To make the chilli heavy enough to create a decent splash, I injected it with water. It was then a case of timing to capture the key moment with my Canon EOS 60D and 50mm lens at 1/200sec.

Forward loop
by Glenn Porter

From Penarth, South Wales

Tell us about your image I have windsurfed in the past and always fancied having a go at photographing an action sequence, similar to the images I've seen in windsurfing magazines. Inspired by your 'Capture sporty action sequences' technique in the September 2015 issue, I headed to the local beach with my Nikon D5200 and Sigma 70-200mm lens. I set the focusing to 3D tracking, and dialled in an aperture of f/13.

Original pic

This gave me a fast shutter speed of 1/1000sec in the bright conditions, and I set the camera to its fastest frame rate. I didn't use a tripod, as it was difficult following the surfers and anticipating when they were likely to jump. I came away with a six-image sequence to work with. I edited each RAW file in Lightroom, and exported them into Photoshop. I named the Layers in sequence and used a Layer Mask to carefully erase around each windsurfer, moving the images into position to give a good flow.

"IT WAS DIFFICULT FOLLOWING THE SURFERS AND ANTICIPATING WHEN THEY WERE LIKELY TO JUMP BUT I CAME AWAY WITH SIX IMAGES"

Wily fox
by Mark Adams

From West Bridgford, Nottinghamshire
Tell us about your image Armed with the tips from the 'Go wild this autumn' feature in the November 2015 issue of the magazine, I set out on my own wildlife shoot armed with my Canon EOS 5D MkIII and 100-400mm telephoto zoom. In dim light, I applied the settings recommended in the article, including setting the upper limit for Auto ISO to 3200 to ensure a fast-enough shutter speed. Shooting through blurred foreground grass, I was careful to keep the fox's eyes in sharp focus.

Hidden from view, Mark was able to capture a fox in its natural habitat.

Forest of despair
by Paul Beale

From Stechford, West Midlands
Tell us about your image Thanks to your 'Create mood and drama with mist' tutorial in the November 2015 issue, I was able to add the finishing touches to a composite I'd been working on. I'd taken the shot of the model at a photography club photoshoot and the woodland background at Sutton Park, both with my Nikon D90, but the conditions hadn't been right for mist. With my two separate images already combined, I added a blanket of fog on a new Layer using the Brush tool in Elements. I then reduced the Opacity and applied the Screen Blending Mode to give a more realistic effect. Finally, I added a Layer Mask and brushed away some of the mist from the model's head and torso, and achieved the effect I'd been hoping to create.

Original pics

Digital mist added the finishing touch of atmosphere to Paul's composite image.

Turning a detailed scene into a silhouette gave a new perspective to Mike's holiday shot.

Grand Venice Canal
by Mike Gilbert

From Whitefield, Manchester
Tell us about your image My shot of Venice's Grand Canal was begging for the 'Turn skylines into dramatic silhouettes' treatment in the November 2015 issue. I'd taken the picture with my Nikon D700 and 18-200mm lens during a holiday and although I was pleased with it, I noted it was a busy scene, full of boats and intricate buildings. The silhouette effect brings an appealing simplicity. In Photoshop, I carefully cut around the bell towers and combined that with using the Quick Selection tool across the remainder of the foreground to create the silhouetted area. I then added the glowing sunset with boosted colours behind, before finishing the effect with a burst of light created with the Lens Flare filter.

Original pic

Rama used her garden as inspiration for a fun piece of natural art.

Waiting for winter
by Rama Bhikhabhai

From Uppsala, Sweden
Tell us about your image I scoured my garden for a collection of autumnal items, constructing this happy face to shoot my own verion of the 'Create autumn fine art' image in the November 2015 issue. I flattened the collage with a heavy wooden block. With my scene built, I shot one sharp and one blurred picture with my Canon EOS 600D and 18-55mm lens fixed in position on a tripod.
  I then combined the two pictures in Photoshop, blending together the Layers and cleaning up the grass along with some stray leaves and twigs.

Original pic

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CREATE A NEW STYLE WITH HDR

Discover how to create pictures bursting with colour and detail, and develop a new look for your shots

If variety is the spice of life, then HDR is about as spicy as photography gets! High Dynamic Range techniques are often thought of as a method of creating other-worldly images, but they're so varied that they lend themselves to any subject and can create a multitude of different styles. Believe it or not, the majority of well-considered, carefully-created pictures use HDR practices in one form or another, and the skill involved is deciding how far you push the techniques. In this big feature, we cover everything you need to know to use HDR to its full potential, so you can create beautiful images and develop your own unique style.

What is HDR imaging?

Dynamic Range (DR) is the difference between the smallest and the biggest quantity of a signal that can be perceived. It's the quietest to the loudest sound you can hear, or the lowest light level in which you can discern detail, to the brightest light source you can imagine. Because our eyes are constantly adjusting to different light levels, we see a vast dynamic range. But cameras are much more limited, and can only record detail in a narrow DR.

When shooting a sunny scene with a bright sky and dark shadows, you have to decide where you want to show detail. Record the subtleties in the clouds, and your camera won't show what's lurking in the shadows. Conversely, if you expose for the shadow detail, then all the brighter parts will bleach out to pure white. An HDR image expands the narrow range of a camera, and gets detail at both ends of the spectrum. This often needs a number of different exposures, but these are blended together to reveal the kind of detail across the tonal range that would be perceived by the eye.

TIM GRIST

WHAT YOU'LL LEARN...

Set up your camera to shoot HDR p36
Create high-impact HDR images p38
Get a full tonal range from RAWs p42
Produce natural-looking shots p44

36

Tim Grist used Photomatix HDR software to turn this stairwell on the London Underground into a work of art.

WHAT **HDR** CAN DO FOR YOUR PICS

After

The full blown HDR look has been used as an effect to exaggerate the texture in the stonework.

Before

After

A naturalistic style has been applied to this iguana pic to bring out the texture in its scales.

Before

WHAT YOU CAN DO WITH HDR

While today's DSLRs do a great job at capturing the dynamic range of a scene, they can't replicate what we see with our eyes. HDR not only helps bridge that gap between technology and real-life, but also offers a huge range of artistic visual styles. This is governed by the way you adjust the tonal information stored in your merged file, and also by the kind of software you use.

At one end of the scale is a naturalistic HDR, which looks no different from a regular photo but has extra tonal information in the mix. At the other end is a highly-stylised HDR, with a heavily-processed, other-worldly look that's almost painterly. Between these

two extremes is a huge range of possibilities, and the art of HDR is in choosing the kind of look that best suits the mood of an image.

Some see the full-blown, extreme HDR styling as an effect – much like you'd get from applying a bunch of Photoshop filters – as it doesn't conform to our concept of a 'real' photo. As a result, they use it sparingly, restricting it to subjects that justify a more 'alien' style. Others love the exaggerated, heightened-reality look and process their HDRs at full pelt. There's no right or wrong, but the best option is to tune your HDR effect to suit your subject, so exercise some restraint if your delicate nature scene starts to look gaudy.

After
Aggressive HDR treatments seldom suit landscapes, so the tones have a natural look.

After
Simple nature subjects can often be lifted with exaggerated HDR processing to give a fine-art feel.

Before

Before

Deciding on HDR visual styles

From landscapes to architecture and macro to wildlife – all subjects will work with extra tonal detail. The thing you really need to assess is the type of HDR processing that's applied to the picture.

Naturalistic
This looks like a normal photo, but the detail in the darker and brighter areas has been 'borrowed' from overexposed and underexposed shots, giving a fuller range of tonal information and more detail throughout the scene. It's most commonly used on portraits, landscapes and nature pictures, unless a more exaggerated style is required for artistic effect.

Moderate HDR
This image looks less natural and has a 'heightened reality' look, with more compressed highlights and a bigger boost in midtone contrast. It's created by merging separate exposures and using one of the more subtle presets in a bespoke HDR package like Photomatix. It's popular on creative portraits, building interiors and can add a surprising lift to nature shots.

Full-blown HDR
The resulting image looks heavily processed, but the effect is dramatic and carries bags of impact. The distinctive HDR look is hard to emulate in Photoshop, so bespoke software is used to blend the images. The extreme visual styling is used like a filter effect to get extra punch into a scene, but it's at its best on textured subjects like derelict buildings and machinery.

GETTING THE NATURAL LOOK

Naturalistic HDRs can be achieved using regular imaging software like Photoshop or Elements, and in their simplest form they involve some selective adjustments within the image to produce a well-balanced exposure. This is the most common form of HDR imaging, and is so frequently used to enhance a picture that most won't even think of it as an HDR technique! Almost every pic you shoot will require some subtle HDR treatment, and because the changes aren't too extreme, all you require is a standard narrow dynamic range image – the kind of thing that comes straight out of your camera! To see how it's done, turn the page.

GET THE RIGHT TONAL BALANCE WITH LEVELS

Make contrast adjustments selectively to even-out exposure differences & get pro quality pics

P retty much every image you take can be improved and enhanced with this subtle HDR technique. That means you can use it to improve shots you've already taken, so you don't need to shoot anything specifically to employ it. Check through your hard drive and you'll find images that would benefit from a little brightening here and a little darkening there. The desired outcome is a picture with the ideal balance of tones that looks natural to the eye. From portraits that need a lift around the subject's face to still-life shots that need a little extra detail in the midtones, 99% of the pictures you've already taken will be enhanced by this approach. This makes it one of the most important imaging techniques you'll ever come across, and mastering it will make you a better photographer. To illustrate this HDR technique, we've used a landscape.

Practise it with our supplied pic first, and then try the same approach on your own shots to see the difference it makes!

At a glance

You'll learn How to create subtle HDR effects to balance the exposure in your shots
You'll need
Photoshop or Elements
Time required
20 minutes
Difficulty level Easy

On the disc

Video lessons Watch on screen as Jon guides you through this tutorial, and see how to get top-quality results with any picture.
Start images The *Africa.jpg* image can be found in the Start Images folder.

Before

Shot on an African plain in Kenya, this landscape has a good focal point and great sky detail, but the foreground is underexposed. This is very common with landscapes, as the dynamic range of the scene is too wide for the camera to capture in one go.

After

By brightening the foreground and the subject, the dynamic range has been compressed to give a much more attractive scene.

HDR SPECIAL

1 Open the pic and select the foreground

Open a pic with a well-exposed sky and a dark foreground, or use *Africa.jpg* from the Start Images folder. To brighten the foreground and bring it in line with the sky, select the **Lasso tool** and draw a rough Selection, taking in the whole of the foreground area. Click the **Refine Edge** button in the Tool Options bar, and set the **Feather** slider to around **100px** to soften the edge. This will allow the change we're about to make blend in seamlessly with the rest of the image. Click **OK** and then in the Layers panel (**Window→Layers**), click on the **Adjustment Layer** icon and select **Levels** from the list.

2 Brighten the foreground and the tree

Move the sliders under the Histogram to brighten the foreground area. How much you move them will vary from image to image, but on this example, we used settings of **17**, **1.51** and **115** in the Shadows, Midtones and Highlights respectively. This improves the pic immediately, but the tree is still too dark. Pick up the **Quick Selection tool** and make a rough Selection by dragging it over the trunk and leaves. **Feather** this by **20px** to soften the edge and then create another **Levels** Adjustment Layer. Now adjust the Input Levels sliders again to brighten the tree. We used settings of **0**, **1.08** and **109** for the three sliders. This makes the tree look good, but it gives an ugly 'halo' around it which needs to be removed.

3 Remove the halo around the tree

To fix the halo, select the **Brush tool** and make sure black is the foreground colour by hitting **D** then **X** on the keyboard. Use a soft round brush, and in the Tool Options bar, set its **Opacity** to **40%**. You can do this quickly by hitting **4** on the keyboard's number pad. Now click away around the edge of the tree, removing the glowing halo so the edges of the tree blend in and look natural.

4 Darken the sky

It's time to turn your attention to the sky, as although the exposure is good, it can still be improved. To select the sky, you can draw around it with the **Lasso tool**, but even better, you can use the Selection you've already made of the foreground. To do this, hold **Ctrl** and in the Layers panel click on the Layer Mask you first made. You'll see 'marching ants' appear around the foreground. To make this Selection take in the sky instead, go to **Select→Inverse** or hit **Ctrl+Shift+I**. Now create another **Levels** Adjustment Layer and move the Shadows and Midtones sliders a little to the right to enrich the sky and reveal extra detail in the clouds. We used settings of **6** and **0.91** on the pic.
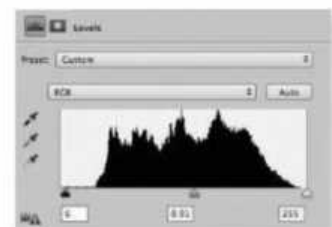
The **Phot✦graphy** Show 19-22 MARCH 2016 THE NEC, BIRMINGHAM

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HDR SPECIAL

5 Adjust contrast in the middle distance

If you look along the horizon, you'll see that some haze has washed out the contrast a little. If you like the look of this, then you don't need to make any changes, but if you want to give an even spread of contrast throughout the scene, you can pep up the tones. To do this, select the washed out band with the **Lasso tool**, and feather it by around **80px** in **Refine Edge**. Create yet another **Levels** Adjustment Layer, and this time, move the Midtones and Highlights sliders to lose the haze and match up the contrast. We used settings of **0.55** and **239**, but these will be different with your own images.

6 Add a little shading to the foreground

On this pic, the foreground is looking a bit too uniform, and it'd be nice to see some extra light and shade in the grass to break up the tones. With a little digital sleight of hand, you can do this – and introduce lead-in lines at the same time. These will guide your viewer's eye to the tree, and give a more compelling picture. To do this, select the **Lasso tool** and draw a diagonal, finger-shaped Selection from the bottom of the frame, pointing towards the tree. Now hold **Shift** to add to the Selection and draw more fingers, leading to the tree. **Feather** the Selection by **80px** in **Refine Edge**, and then create a **Levels** Adjustment Layer. Move the Midtones slider to the right to give a shadow effect, but keep the change subtle. We used a setting of **0.56**, but you may need more or less than this, depending on the content of your own images.

7 Add a warm-up

The final step is to add a little warmth to the picture's colour balance. This will make it look more inviting. You only need to alter the foreground, though, as the sky and tree are already looking good. The beauty of using Adjustment Layers is you can open them and change the settings whenever you like, so in the Layers panel, double-click on the foreground **Levels** Adjustment Layer (**Levels 1**) to bring up the Levels settings you use to brighten the foreground. Click where it says **RGB** and choose the **Red** Channel from the list. Now move the Midtones slider to the left to increase the red content of the area. Just a slight tweak is needed – we used a setting of **1.06**.

⊕ EXPERT TIP Curves in Photoshop

This technique uses a series of **Levels** adjustments applied to different parts of the scene to create a naturalistic HDR image. **Levels** can be used in Photoshop or Elements software, but if you have the full Photoshop, you can take even more control using **Curves** instead. When you create a **Curves** Adjustment Layer, you'll be presented with the Curves palette. This consists of a diagonal line, superimposed over a Levels-style Histogram. The Shadows and Highlights can be altered in the same way as Levels by moving the two sliders at the bottom. But the Midtones have much more flexibility, and are adjusted by clicking on the line and pushing it up (brighter) or pulling it down (darker). Depending on where you click on the line and how far you push or pull, you can produce many subtle differences in midtone contrast, so if you have the full version of Photoshop, run the technique in exactly the same way, only use **Curves** instead of **Levels**.

HDR HOW TO SHOOT
THE SMART WAY

Set up your camera the right way and you can shoot HDR sequences automatically, making the process fast and easy.

The previous technique revealed how to improve pics by balancing the exposure and brightness levels across the frame to give a better, more even result, but 'true' HDR images require a number of different exposures of the same scene. Although it's effective, setting up a sequence of exposures manually is quite time consuming, so the best option is to use your camera's auto-exposure bracketing (AEB) feature.

This is found on all DSLRs and CSCs and provides a quick and easy way to shoot HDR sequences rapidly. Apart from sheer speed, the

other advantage of AEB is you can use it when shooting handheld. You'll never get a perfect match between shots when handholding, but you'll get pretty close if you only have the shutter button to deal with. Trying to adjust exposure settings manually while handholding will always result in shots that are way out of register, but using AEB will get you close.

While locking off your camera on a tripod is always the best option for properly-aligned HDR sequences, slight variations in camera position can be fixed by selecting the auto-alignment option in bespoke HDR software.

SET UP YOUR CAMERA
FOR HDR SHOOTING

When you bracket a shot, you take a series of pictures at different exposure values. To ensure consistency of results, it's important that your focus point and your aperture value remain exactly the same throughout. This means that the sharpest point in your shot won't vary, and neither will the depth-of-field (the zone of sharpness in the image).

1 **Set your camera to Aperture priority mode** (A or Av on the main mode dial) and ideally, place your camera on a tripod. The auto-bracketing function is accessed via a BKT button on the body for some cameras, and through the shooting menu on others. The order in which the photos are taken is set in the menus, and the simplest route is to set this to **Under→ Metered value→Over**. That way, your shots will be in a logical sequence from dark to bright when you look at them on screen, and when you load them onto your computer.

2 **Once you've set this**, you need to decide how many shots you want in your bracketed sequence, and the exposure difference between them. For the majority of HDR shots, a bracket of 3 frames with an exposure difference of 2 stops will deliver all you need. This will result in exposures of **-2**, metered value (**0**) and **+2**. If your camera only offers a maximum of 1 stop of exposure difference, shoot a **5-frame** bracket instead. This will give you **-2,-1**, **0**, **+1**, **+2** and you can delete the **-1** and **+1** variants to end up with a **-2**, **0**, **+2** sequence.

3 **Now set the camera's drive** speed to its **High** setting. This means all 3 (or 5) frames will be rattled off in a continuous burst, so you only need to press and hold the shutter button while counting off the number of frames. Some cameras will stop after taking the last frame, and others will just keep shooting, so counting off the shutter clicks is always a good idea. If you find it tricky to shoot in bursts, set the Drive mode to its Single-shot setting, and then take each frame individually, counting them off as you go.

4 **Frame up on your scene** and position the AF point over the part you want to be sharp. Half press the shutter to lock the focus. If you're using a tripod, switch to Manual Focus mode at this stage to ensure the focus distance doesn't change between each successive shot in the sequence.

If you're shooting handheld, keep your composition as static as possible throughout the sequence, and make sure the **AF** point doesn't drift to another part of the scene. Hold your breath while shooting, and stay as still as possible.

5 **Take your sequence of shots** and check them on screen, making sure you have them in the right order. This check is important, as it's easy to inadvertently shoot an extra frame and be halfway through another bracketed sequence. When you've finished capturing your HDR shots, always switch off the auto-bracketing function to return to normal shooting. This means your camera is set to shoot in its regular exposure mode and will give you a 'normal' shot if you need to react quickly. Leaving AEB switched on is a common error, so try not to make it!

USING RAW HDR FILES THE QUICK WAY

Many HDR fans shoot their bracketed shots as JPEGs because it speeds up the process when the images are merged in HDR software. The ultimate control comes with RAW files though, but if you find the idea of converting them all a bit too labour intensive, you'll be pleased to know you only have to do it once. Convert one file in Camera Raw and click **Done**. To apply the same settings to the next file, open it, click on the flyout menu at the top right and select **Previous Conversion**.

DIGITAL PHOTO **37**

GET STYLISED HDRS WITH PHOTOMATIX

Use your **free** software plugin to create the full drama of atmospheric HDR images

T o get the full-blown, highly-stylised form of HDR image that's incredibly striking and hyper-real in its nature, you need to use specialist HDR software. This month, we've teamed up with our friends at *www.HDRsoft.com* to offer you one of the most famous HDR packages in the world.

What's more, it comes in the form of a special plugin edition, so you can run it directly from Photoshop or Elements, increasing ease of use and saving you time. With this plugin edition of Photomatix Essentials, you can create a huge array of different HDR styles, and that means truly amazing images. The free download is available until **March 31, 2016**.

How to install your free software

1 Open your web browser and go to *www.hdrsoft.com/dpmag*
2 Enter the code **DP2016**
3 You'll find options for Windows/Mac and the different versions of Elements (9 & higher) or Photoshop (CS & higher). Pick the one compatible with

At a glance

You'll learn How to create high-impact HDR effects for stylised and dramatic images
You'll need Photoshop/Elements & Photomatix Essentials
Time required 20 mins
Difficulty level Easy

On the disc

Video lessons Watch on screen as Jon guides you through this tutorial, and see how to get top-quality results with any picture.
Start images *Hall 1, Hall 2 & Hall 3.jpg* can be found in the Start Images folder.

your software version to download it.
4 When the download is complete, double-click on it to open the installer, then follow the instructions on screen to install the *Photomatix Essentials* plugin into your copy of Elements /Photoshop. Open Elements or Photoshop, and the plugin will be under the **File→Automate** menu.

Before

The three shots of this hall were taken using aperture priority mode, with exposure values of –2, 0 and +2 respectively. The tonal detail from the brightest and darkest areas can be merged in Photomatix, before the pic is fine-tuned in Photoshop.

JON ADAMS

After

After HDR processing in Photomatix, the image reveals a huge tonal range and is packed with character and drama.
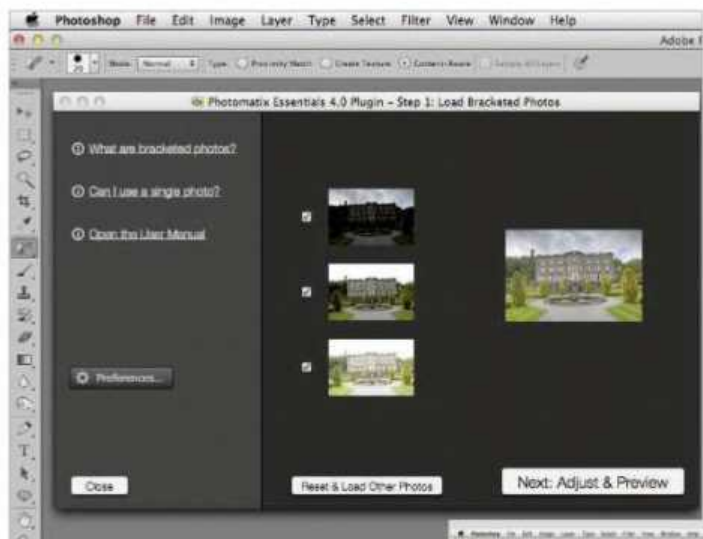
1 Open your pics and load them into the Photomatix plugin

Load Elements or Photoshop, and go to **File→Automation Tools→Photomatix Essentials** (Elements) or **File→Automate→Photomatix Essentials** (Photoshop). In the Photomatix dialogue, click on **Browse** and navigate to your sequence of HDR files, or use *Hall 1*, *Hall 2* and *Hall 3* in the Start Images folder. Hold **Ctrl** and click on the three files, then click **Open**. Back in the dialogue, make sure the files are ticked, and click on **Next: Adjust & Preview**. Alternatively, you can open the three files in Photoshop/Elements, and then click **Add Open Photos** when you launch the Photomatix plugin.
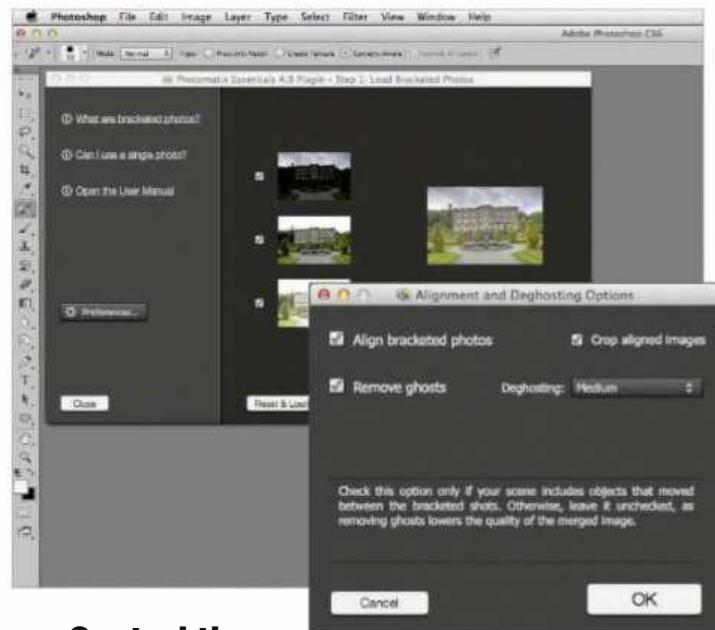
2 Control the alignment and remove ghosts from your merged image

The Alignment & Deghosting Options window will appear. If you've used a tripod and you know your bracketed sequence is perfectly aligned, then don't tick **Align Bracketed Photos**. If you've shot handheld, then tick this box, and also tick **Crop Aligned Images**. If there are moving elements in your scene, such as leaves blowing in the breeze or people changing position from frame to frame, tick **Remove Ghosts**, and choose **Medium** under **Deghosting**. If your shot is static, untick this option for better quality. Click **OK** when you're done, and Photomatix will generate a preview image.

3 Apply a preset to get the style you want

In the Preview window, make sure **Thumbnails** is ticked at the top left, and you'll see thumbnail images of how the picture will look when particular presets are applied. There are 33 presets in total, and these appear on the right of the interface as thumbnails. Clicking on any of these will apply the preset effect to your image, and show the effect in the main window. Click through the list to choose the overall look you want for your image. We chose **Painterly 4** in this example.
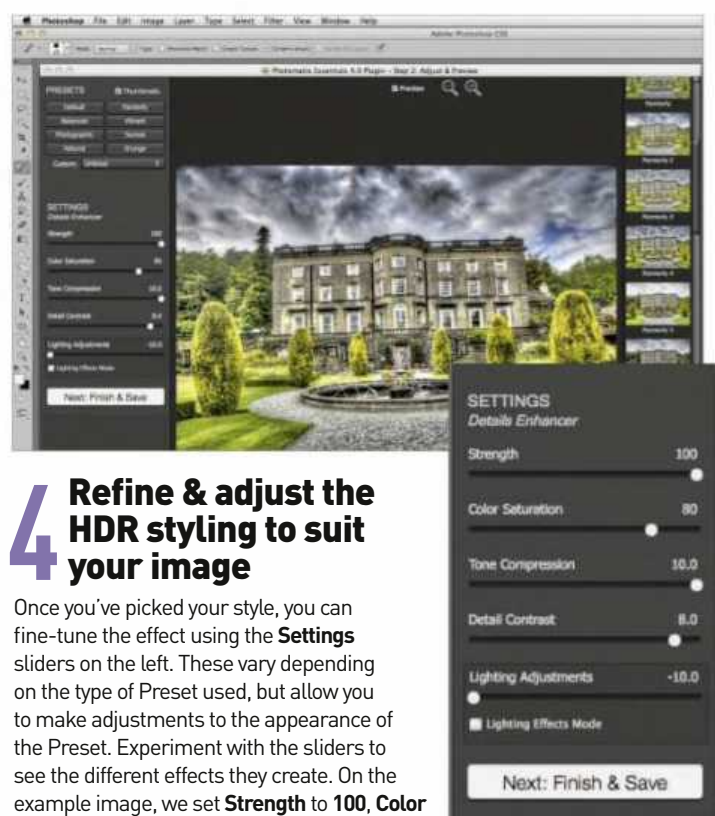
4 Refine & adjust the HDR styling to suit your image

Once you've picked your style, you can fine-tune the effect using the **Settings** sliders on the left. These vary depending on the type of Preset used, but allow you to make adjustments to the appearance of the Preset. Experiment with the sliders to see the different effects they create. On the example image, we set **Strength** to **100**, **Color Saturation** to **80**, **Tone Compression** to **10**, **Detail Contrast** to **8.0** and **Lighting Adjustments** to **-10.0**. Once you're happy with the look of the image, click on **Next: Finish & Save**.

5 Reduce digital Noise in the darker areas of your HDR scene

Unless you've switched off the option in the **Preferences**, a dialogue box will ask you whether you want to apply Noise Reduction. If your image is intentionally grungy and grainy, decline this option. In most cases though, reducing Noise will enhance the quality of your pictures – particularly in the darker shadow areas. Clicking on **Yes** will increase the time it takes to process the image, but that's the only disadvantage so it's worthwhile in most cases.

6 Apply sharpening and add contrast

Photomatix will merge your files into a high-resolution HDR image. A final window will appear where you can add sharpening and adjust contrast. You can choose different levels of sharpening to add extra definition to edges under **Sharpen**. Under **Contrast**, click on the **[–]** alongside **Contrast Options** and you can assign different levels of contrast to the different tones. On the example image, we used values of **0**, **0**, **–20**, and **–5** in **Highlights**, **Lights**, **Darks** and **Shadows**, respectively. Click **OK** and your HDR will be loaded into the regular Photoshop/Elements interface.

7 Refine the image back in Photoshop

Back in Photoshop or Elements, you can now make any further edits or changes to your HDR file. This may include refining the composition with the **Crop tool**, cloning out any distractions or making tweaks to the colour and contrast. In the example image, we straightened up the shot by hitting **Ctrl+A** to select it and then **Ctrl+T** to go into **Free Transform** mode. Hold **Ctrl** and pull the corner handles to straighten the horizontals and verticals, then hit **Return** to confirm. When doing this it's a good idea to use the **Grid** or some **Guides** for reference. Both these are under the **View** menu. With that, your full-pelt HDR image can now be saved. To do this, go to **File→Save As**. Maximum quality JPEG is ideal for most purposes, though if you want an uncompressed image, use the Photoshop (PSD) format.

BOOST DETAIL & COLOUR IN RAW

Get bold, vibrant results and a full tonal range from a single RAW file

RAW files have a much bigger dynamic range than JPEGs, and this technique alone will reveal why it's a good idea to always shoot in your camera's RAW format. Very often, the sliders in the control panels in RAW conversion software like Adobe Camera Raw or Lightroom will provide enough latitude for you to produce an HDR-style image.

Provided the dynamic range in the scene isn't too broad, you'll have all you need to make a great-looking picture packed with detail right across the tonal range. HDR techniques work by compressing the brightness of the highlights and expanding the brightness of the shadows, and in Adobe Camera Raw, there are two aptly named controls – *Highlights* and *Shadows* – that perform this job wonderfully. By using these, in conjunction with the other sliders, you can reveal enough detail in the bright and dark tones to produce an excellent image. This process is especially useful as it only requires a one-off, single image. Regular HDR techniques require multiple exposures, and of course, many subjects simply won't stay put long enough to allow a sequence to be captured.

For portraits, action shots and any subjects that aren't nailed down to terra firma, this is your first port of call!

At a glance

You'll learn How to create HDR-style effects using the extra dynamic range present in the RAW file format
You'll need Photoshop or Elements
Time required 10 mins
Difficulty level Easy

On the disc

Video lessons Watch on screen as Jon guides you through this tutorial, and see how to get top-quality results with any picture.
Start images *Crane.dng* is in the Start Images folder so you can practise the technique.

Before
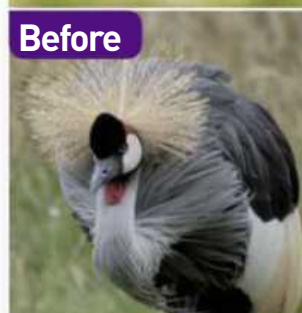
1 Compress the tones

Open your RAW file into Elements or Photoshop and it'll be loaded into the Camera Raw interface. Alternatively, use *Crane.dng* from the Start Images folder for practice. Make sure the Basic tab is selected, and set **White Balance** to **Daylight** from the drop-down menu. Move the **Highlights** slider to **-100** to compress the bright tones. Now push **Shadows** to **+100** to reveal detail in the darker areas. Check the Histogram at the top of the interface and move **Exposure** until the right-most part of the graph is at the extreme right edge of the window. On the example, this is a setting of **+1.00**.
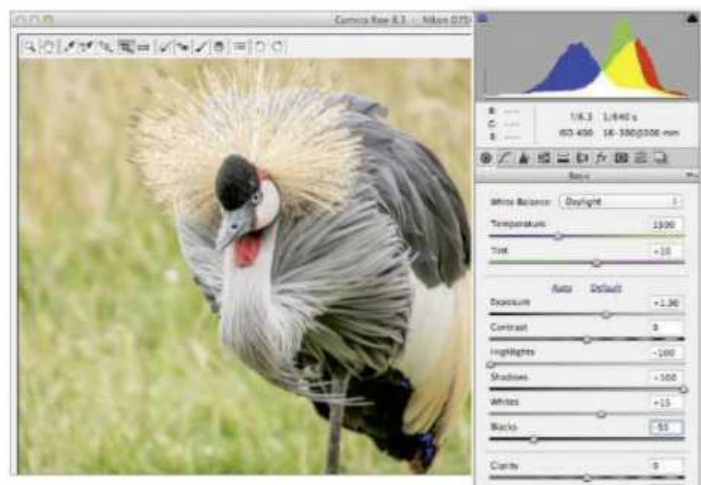
2 Set the white & black points

The pic is brighter and more detailed, but is looking washed out. To correct this, you need to control the very dark and very bright tones. Click the two small triangles above the Histogram and move the **Whites** slider to the right until it starts to clip. This will be displayed as a red mask. Leave the slider just as the red starts to show (around **+15** on the example). Now move the **Blacks** until you see blue splodges. This is where the deepest shadows turn to pure black and lose detail (a setting of around **-55**). You can now switch off the two triangles to remove the red and blue.

After

The sliders in Camera Raw can transform the tones in a RAW file, bringing out great depth and detail.

JON ADAMS

3 Increase Clarity

The **Clarity** slider accentuates the contrast on the edges in midtones, so gives a sharper look to shots. Move this to around **+70**, and then to ramp up the colours, increase both **Vibrance** and **Saturation** to **+25**. Don't worry that the grass is too vivid – we'll fix that later. Click on the **Detail** tab and under **Sharpening**, set **Amount** to **100**. Leave **Radius** and **Detail** at **1.0** and **25**, the hold down **Alt** and increase the masking until the white only affects the edges. This is the part that's being sharpened – the black areas are left alone. We used a high setting of **90**.

4 Control the colour

In Photoshop's Camera Raw, click on the **HSL/Grayscale** tab and make sure the **Saturation** sub-tab is selected. To tone down the grass, move **Yellows** to **-40** and **Greens** to **-20**. You can now hit **Open Image** to open your file. Elements doesn't offer this control in its RAW converter, so to make a similar change, hit **Open Image**, and when the pic has loaded, press **Ctrl+U**. In the Hue/Saturation palette, click on **Master** and select **Yellows** from the list. Move **Saturation** to around **-30**, and click **OK**. Whichever route you followed, you can now save your much improved image via **File→Save As**.

GO NATURAL FOR A PHOTO-REAL FINISH

Employ the entire tonal range from multiple exposures, but get an end result that looks just like a regular photo

Although full-blown HDRs are huge on impact, the over-the-top, hyper-real styling can be a bit of a one-trick pony, and isn't suitable if you want to preserve the natural look of a real photo.

In fact, many HDR devotees start off creating the full-volume look, as it packs a powerful punch, but when the honeymoon period is over, they use the advantages HDR gives in a more gentle way. This allows the use of all that extra tonal detail, but places it within a style that feels 'normal' rather than effect-laden.

Manual exposure blending is quite possible using Layers and Masks in Photoshop or Elements,

but Photomatix can be used in more restrained ways to get the result you're after. The benefit here is speed, as once you're familiar with the software, it's much quicker to assemble a basic HDR image than it is to indulge in the very hands-on technique of masking with a brush.

This step-by-step reveals how to get a great photo-realistic style from bracketed exposure sequences, and uses the processing power of Photomatix to produce a detailed, but rather flat image. By taking this into Photoshop or Elements, you can then refine it, adjusting contrast colour and sharpness to get the look and feel you want.

At a glance

You'll learn How to merge three different exposures together for a natural look
You'll need Photoshop/ Elements & Photomatix
**Time required** 10 minutes
Difficulty level Easy

On the disc

**Video lessons** Watch on screen as Jon guides you through this tutorial, and see how to get top-quality results from HDR sequences.
Start images Windmill 1, 2 & 3.jpg can be found in the Start Images folder.

1/250sec @ f/4

Taken on the ground floor of a disused windmill, our three source pics were shot handheld at a fast frame rate using a 10-24mm wide-angle lens.

1/60sec @ f/4

Sunlight was streaming in through the windows, giving a vast dynamic range that was impossible to record in a single shot, so auto-bracketing was used.

1/15sec @ f/4

With the ISO set to 400, the shots were captured at an aperture of f/4. Shutter speeds were 1/250, 1/60 and 1/15sec, which covered the entire brightness range.

The detail in the scene was spread over three different exposures, but they've been combined to give a detail-rich but natural looking image.

SEE HOW
TO CREATE
THIS
HDR
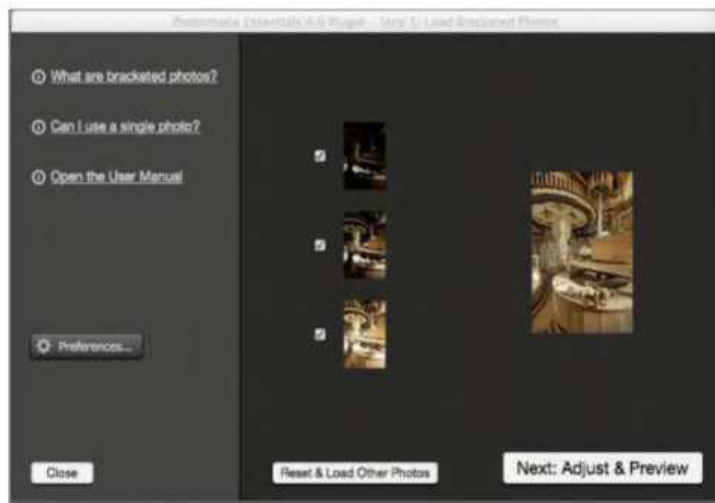
1 Open your pics into Photomatix

Open Photoshop or Elements, and load the Photomatix plugin via **File→Automate/Automation Tools→Photomatix Essentials**. Click Browse and select a bracketed set of shots, or use *Windmill 1, 2* & *3* from the Start Images folder. Once you've highlighted all three by **Ctrl+clicking** on them, click on **Open**. In Photomatix, check they're all ticked and click **Next Adjust & Preview**. In Alignment and Ghosting Options, tick **Align Bracketed Photos** and **Crop Aligned images**, and also tick **Remove Ghosts** if anything is moving in your sequence. This wasn't needed for the example images. Click **OK** and they'll be loaded.
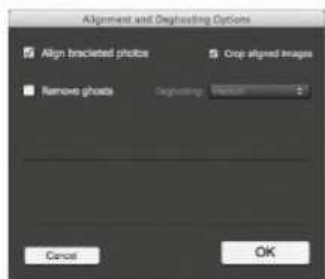
2 Pick the Preset that gives the best tonal detail

Ensure that **Thumbnails** is ticked next to Presets at the top left, and then click the **Default** option at the top of the Thumbnails list on the right of the screen. A fairly flat result will be shown that's well-packed with detail but relatively low in contrast. Other options to try are the **Balanced**, **Photographic** and **Natural** Presets, as these use different tonemapping parameters and may give a better result depending on your image. Adjust the sliders under **Settings** if required, but avoid making changes that are too extreme, or you'll lose the natural look you're after. To process the results, click on **Next: Finish & Save**.
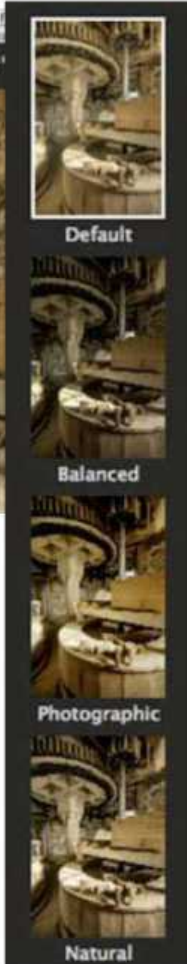
3 Create the HDR image

Click **Yes** to the Noise Reduction window, and then click **OK** to the next screen, leaving the **Sharpen** and **Contrast** options both set to **None**. Your HDR image will be loaded into the regular interface of Photoshop/Elements. With your exposure blending out the way, you'll have a detail-rich image. It's now time to refine the contrast, colour and sharpening, just as you would with a normal photo straight out of the camera.
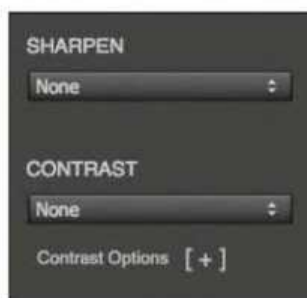
4 Add contrast in Photoshop/ Elements

To address the rather flat look, some contrast is needed. The usual way to do this is via a Levels adjustment, but there's a neat trick up Photoshop's sleeve. To give a contrast boost to a flat image, hit **Ctrl+J** to copy the Layer. Now in the Layers panel, click where it says **Normal** and select the **Soft Light** Blending Mode. **Overlay** can also be used for a more dramatic effect, but this can blow your highlights and lose detail in the brightest parts, so **Soft Light** is safer. You'll notice that making this change also increases saturation in the image, so to suppress this, hit **Ctrl+Shift+U** to desaturate the Soft Light Layer. This will restore the existing colour balance.

5 Adjust the colour to suit the subject

Now the colours are neutralised, you can take precise control over their appearance. To do this, click the **Adjustment Layer** icon in the Layers panel and select **Hue Saturation** from the list. In the palette, click on **Master** and you can select any of the individual colours and adjust them independently. For this image, the **Yellows** need to be toned down, so select them and then reduce the **Saturation** to **-20**. Now select **Reds** and increase **Saturation** to **+30**. This gives a natural look that makes the best of the wooden textures.

6 Sharpen your shot to boost detail

No sharpening has yet been applied to the image, and it's important to make the most of the detail you've brought into the shot. To do this, hit **Ctrl+Alt+Shift+E** and merge all the work done so far into a new Layer. Change the Blending Mode to **Overlay**, and then zoom in tight (**Ctrl+Plus**) on an area of detail. Now go to **Filter→Other→High Pass**. In the dialogue box, use a value between **3** and **8px**, looking closely at the level of sharpening you're applying, and picking the best result. For this image, we used a value of **7.0px**. Click **OK** and your natural-looking HDR is complete.

TURN ONE PIC INTO THREE!

The hidden detail in a single RAW file can be turned into three different exposures.

If you've taken just a single shot of a subject, then provided you've recorded it in RAW format, you can use the extra dynamic range within the RAW file to create a set of different exposures. These can be processed in Photomatix just like a true HDR set with separately shot images.

To do this, open your shot into Adobe Camera Raw, and move the **Exposure** slider to the left to assess whether the image shows a good level of detail in the brightest tones. Now move it to the right and see if you also have detail in the shadows.

Once you've checked that your picture possesses the range of tones you need, you can then create three separate versions of the RAW file – one that's underexposed to reveal just the highlight detail, one that's overexposed with blown-out highlights but good definition in the shadows, and one in the middle to show good midtones in the scene.

As you make each one, click on **Open Image** in the Camera Raw interface, and the file will be loaded into Photoshop/Elements. Save it as a JPEG via **File→Save As**, and name it *Filename-under.jpg*, *Filename-over.jpg* or *Filename-mid.jpg*, depending on which exposure you've produced.

These three new versions of the original RAW file can then be loaded into Photomatix, and you can create any of the multiple exposure HDR styles described in the techniques.

Once RAW files have been converted into different exposures, they can be merged into a variety of HDR styles just like a genuine bracketed sequence.

JON ADAMS / BAUER

Using our MaxDR technique, you can blend HDR images with the original pictures to get a hybrid look.

WELCOME TO MAX DR

There's an extra style that blends an original shot with a processed HDR. We call it MaxDR...

Because HDR processing works globally, the extra contrast and colour that's injected into the final image can work against you and lose the detail you're trying to show. Defocused areas in a shot can suffer from an unnatural look, so our MaxDR technique allows you to blend a merged HDR with the pictures that created it. This restores tonality to give you the impact of HDR, but only in specific areas.

At a glance

You'll learn How to create MaxDR pics that blend merged HDRs with regular exposures
You'll need Photoshop/Elements & Photomatix Essentials
Time required 10 mins
Difficulty level Medium

On the disc

Video lessons
Watch on screen as Jon guides you through this tutorial, and see how to maximise the quality of your HDR pics.
Start images *Feather 1.jpg, Feather 2.jpg* and *Feather 3.jpg* can be found in the Start Images folder.

1 Shoot with a tripod and take a 3-shot bracket

Any static subject can be used for MaxDR, but it's essential to use a tripod so the camera doesn't alter its position, aperture or focus point while you're shooting. We used a macro lens to shoot a peacock feather, and to add a focal point, a drop of water was added using a small paintbrush. To ensure accurate focus on the water drop, switch to Live View mode and then switch your camera and lens to its to Manual Focus mode. Zoom in on the screen and scroll across to the water drop, and then rotate the focus ring to get the water drop super sharp. Use an aperture that gives a reasonable depth-of-field. This will vary with the lens used, but for our macro shot, we used f/18. Now take a bracket of -2, 0 and +2 exposures, as you would for a regular HDR sequence.

2 Create your HDR in Photomatix

Load your three shots into the Photomatix plugin to merge the files and create an HDR. Alternatively, use *Feather 1*, *2* and *3* from the Start Images folder. You won't need to apply any alignment or cropping or deghosting functions, as your camera's position and settings have remained consistent throughout the sequence of shots. This is vitally important for MaxDR, as you won't be able to blend your HDR with one of the shots that created it if anything is out of register. Once you've merged the three files, choose a Preset style that works well at the sharply-focused area of your image. For the example image, we selected the **Painterly 5** preset. You won't need to add any sharpening or contrast to the merged file, as that can be adjusted in Photoshop or Elements.

3 Add your original shot to the HDR

With the HDR image created and on screen in Photoshop or Elements, go to **File→Open** and find the shot in the HDR sequence that gives the best natural results. In most cases, this will be your middle exposure, so select *Feather 2.jpg* from the Start Images, and click Open. Once it's on screen, hit **Ctrl+A** to select it, **Ctrl+C** to copy it, **Ctrl+W** to close it and **Ctrl+V** to paste it into your HDR picture. Look in your Layers panel and you'll see two Layers, with the original exposure sitting above the processed HDR file. Hold **Alt** and double click on the **Background** Layer (the HDR image) and it'll become **Layer 0**. Now drag this up to place it above the original pic. Click on the **Add Layer Mask** icon and a white rectangle will appear alongside the Layer thumbnail. This is your Mask.

4 Blend the Layers to refine the pic

Hit **D** then **X** to make the foreground colour black, and select the **Brush tool** (B). In the tool Options bar, select a soft brush and then move the **Opacity** slider to **30%**. Adjust brush size with the square brackets, and paint over the areas where you want to reveal natural looking detail from the original shot. Pay close attention to out-of-focus areas, as these can suffer from HDR processing and take on an unnatural look with overly-hard edges and blocked-out colours. Look for highlights that are bleached or inverted too, and restore these in the same way. When you have a good-looking image, you can make any further adjustments to contrast and colour, and can add some extra sharpening to make the part of the shot that's in focus really crisp. See the video lesson for more on these finishing touches.

GET INSPIRED

Three great ideas you can try with HDR imaging

1 **2**

3

Y ou're now up to speed with what HDR can do for your pictures, but to take your journey even further, there are some additional tricks worth trying to enhance your visual style. They're all easy to do, and create images with a high degree of artistry.

1 Shoot with a shimmer!
Pick a calming scene with a strong textured focal point. Shoot an HDR sequence handheld, and intentionally move the camera a little between each shot. Remove ghosts when you blend, and you'll create a shimmering effect.

2 Capture sci-fi styling
Shiny indoor structures like escalators are full of bright highlights and deep shadows. Shoot them handheld with a fast frame rate, and blend with aggressive HDR processing for a Blade Runner look!

3 Get creative with colour
The glowing highlights and punchy contrast of the louder, more exotic HDR Presets creates other-worldly scenes with exaggerated tones. To further divorce these from reality, some selective toning or desaturation using the Hue/Saturation command will create a more limited colour palette, and add a fine-art feel.

CAPTURE
FESTIVE
EMOTION

Got the family around you this
Christmas? Make the most of this
magic time by shooting a bokeh-
rich portrait lit by a candle

WORDS & PICS BY MATTY GRAHAM

W hen the Christmas break rolls around, we all get
excited at the prospect of enjoying some time
with the camera. The reality is, those days are
quickly filled with visits from friends or family.
But just because you're indoors socialising, it doesn't mean
you can't create great images filled with festive emotion.
What's more, with kids or grandkids on hand, you'll have a
ready supply of subjects for portraits.

With light levels low during this period, now's the time
to incorporate some festive props into the frame to not
only provide a light source for your subject, but to also
create interest in the background by producing bokeh.
'Bokeh' is a Japanese word meaning 'blur' or 'fuzziness' and
is used to describe the specular effect generated on
out-of-focus areas. It's most pronounced when you use a
large aperture, such as f/2.8. Points of light are needed to
produce the most attractive bokeh in the background, and
this is where your Christmas tree lights come in. To light
your subject's face, some candles (real or the safer LED
versions) can cast atmospheric, soft light for a wintry,
festive feel. There'll be some processing necessary to get
the best results, so shooting in RAW will offer you the
chance to adjust exposure, colour and reduce the effects of
digital Noise back at the computer. Follow our steps and
you'll have family portraits to treasure all year round.

Required kit

DSLR or CSC
Any camera is fine, but a fast
lens with a large aperture will
produce the best bokeh.

Lights and tree
To complete the festive feel, a
Christmas tree lights and candles
(real or LED) will be needed.

MATTY GRAHAM / BAUER

The combination of a cute subject, candlelight illumination and some attractive bokeh in the background gives a warm, festive feel.

TECHNIQUE
STEP-BY-STEP
GUIDE OVER
THE PAGE

SET UP AND SHOOT YOUR FESTIVE PORTRAIT

Clearing a space in front of the Christmas tree is the best start to setting up this portrait. Sitting your subject at a table will not only give you somewhere to place your candle light source, but will also help the model stay still during what can be a slow shutter speed due to the low light levels.

The trick is to place the subject close enough to the Christmas tree so that the bokeh produced by the lights will fill a large enough area of the background. If you're restricted by where you can place your model, search out some extra lights and hang them around the room, even if they are temporarily attached to a chair. In any case, the combination of a shallow aperture and low light will work together to hide any unconventional supports in the frame.

Tree and lights
A Christmas tree will serve as the perfect background while fairy lights will create a great bokeh effect.

Wardrobe
Get the right look by asking your model to wear that perennial Yuletide gift – the Christmas sweater!

Camera support
In low light levels, use something to support the camera to avoid camera shake. A full-size tripod may be too big indoors, so a cushion, bean bag or mini tripod will work well.

Candles
Real candles can be used, but LED versions are safer and cast a warm orange glow. They cost from around £10.

Arrange the props before calling your subject – little ones get bored quickly.

Shoot in Aperture priority mode with your largest aperture value (the lowest f/number) to help create the bokeh effect.

1 Position your props and subject

Position a coffee table in front of your Christmas tree with room for your model to stand or sit between the two. Place the LED candles on the table so they will light up the subject's face and create attractive catchlights in their eyes. Get your camera in position and support it on a mini tripod, or use a beanbag or cushion if you don't have one. With everything ready, call in your subject and position them with their back to the tree and just a little to the side so they don't block your view of the fairy lights. The illumination from LED candles isn't very strong, so move the candles as close as you can until their glow is visible on your subject's face. You can shoot this low-light image during the day, but you'll need to draw any curtains to darken the room.

2 Dial in your camera settings

With the camera on a mini tripod, switch off any image stabilisation and set the exposure mode to Aperture priority (A or Av on the mode dial). This allows you to select the aperture to control depth-of-field while the camera picks the appropriate shutter speed. Dial in the largest aperture your lens will allow – usually f/3.5 for kit lenses, or f/2.8 or f/1.8 if you have a fast zoom or prime lens. Set the ISO to 500 to start with, but be prepared to increase this if your shutter speed is too low. Next, access the File Format option (also called Quality) via the Menu and select RAW. This will give you more latitude for exposure adjustments when you edit the file.

SOMETHING FOR THE CHRISTMAS WEEK

3 Focus on the eyes & take a test shot

With the model in position, frame up until you're happy with the composition. Get them to tilt their head a little until you can see catchlights in both eyes. Because the zone of sharp focus is so shallow when using a large aperture, it's critically important to focus accurately on the right part of the subject. With portraiture, this is the eyes. Line up the AF point over the nearest eye and half-press the shutter to set the focus – some cameras will confirm focus with a beep (see panel). With focus achieved, fully press the shutter to take a test shot.

4 Check the shot & increase ISO

Review the image on the camera's screen and zoom in to the focus point to check there is no blur from camera shake or from the movement of your model. If blur is evident, increase the ISO setting to 1600 (or higher), until you get a shutter speed reading of 1/125sec or faster. The shutter speed will be displayed in the viewfinder or on the LCD screen. With everything set up, shoot a selection of images with your subject trying different poses (see panel below) so you can pick your favourite when reviewing your shots on the computer screen.

TECHTALK

Aperture
The aperture of a lens governs how much light it lets in and through to the sensor. A large aperture of f/2.8 lets in lots of light and gives a shallow depth-of-field, while a small aperture like f/22 lets in just a trickle of light and holds more of the scene in sharp focus. Most kit lenses are restricted to a maximum aperture of f/3.5 or f/5.6, depending on the focal length used. Fast zooms can achieve f/2.8, while many prime lenses can open up to f/1.8 or even f/1.4.

ISO setting
The ISO setting affects how sensitive-to-light the camera's imaging ship is. Lower ISO values of 100-400 are less sensitive, but give higher quality pics with less digital Noise (a grainy, coloured speckling). High ISOs (800-3200) give faster shutter speeds but create increased levels of Noise.

Focus beep
Although some photographers prefer to turn it off, the focus confirmation beep can be very useful. When the autofocus system achieves focus, it will generate a beep, so you know it's now okay to fully press the shutter and take the shot.

Get the perfect pose for more natural portraits

It's important to remember your photogenic subjects are not professional models and will need encouragement and guidance to achieve a natural-looking pose. Fail to give the correct direction and it's likely your model will look awkward, potentially ruining the portrait. A common complaint from nervous subjects is that they don't know what to do with their hands. A quick solution is to get them to rest their elbows on the table, and then support their chin with their hands.

Forced smiles look unnatural, so tell your subject a joke to break the ice and put them at ease, or simply capture the more wistful expression. Kids have a limited concentration span and may struggle to look at the lens long enough for you to capture the portrait. Try turning the shoot into a game with a 3,2,1 countdown. For younger children, ask them to look for the fairy in the lens – it's amazing how they will gaze with wonder at the optic! If the photoshoot is proving hard work, take a break. After a drink and a snack, their enthusiasm levels will bounce back!

NOW ENHANCE YOUR PHOTO

"Can we get hair and make-up in here asap?"

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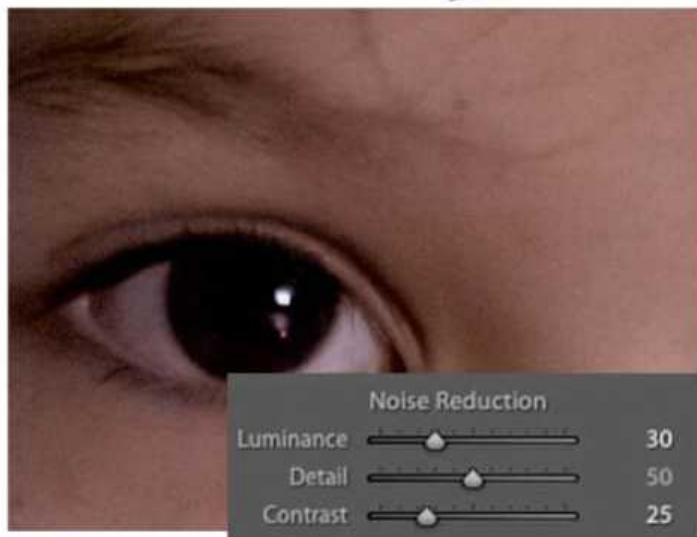
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Balance your overall exposure, clean up digital Noise and enhance your subject's eyes in minutes.
It's simple to do in Lightroom - just follow the easy step-by-step!

VIDEO LESSON ON THE CD

1 Open image in Lightroom and fix White Balance

Select your RAW file in Lightroom or import *Christmas.dng* from the Start Images folder. To do this, click the **Import** button at the bottom left of the **Library** module. Once it has been imported, click on the **Develop** module at the top to enter the editing mode. The **White Balance** in the image can be fixed by scrolling to the **Basic** tab and locating the **Temperature** slider. To cool down the scene, drag the slider to the left. You can also use the **Tint** slider below to further fine-tune the colour balance of the scene. For the example image, **Temperature** was set to **2980** and the **Tint** was set to **+51**. These settings give the scene a much more natural look while still retaining the atmospheric feel.
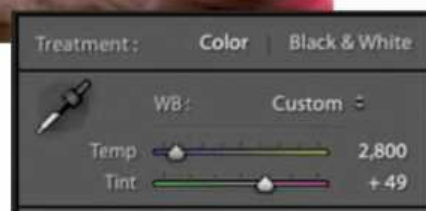
4 Control the grain for a smoother look

With the speckling gone, it's time to suppress the grain in the image. In the **Noise Reduction** options, locate the **Luminance** slider. Hold the **Alt** key to help you see the changes in mono, and drag the slider to the right. You will see the grain soften and decrease. Don't push this slider too far or you'll achieve an unnatural 'porcelain' effect. Again, to help you judge the appropriate amount of Noise Reduction, simply hover the mouse over an important area, such as the subject's eyes, and click once to zoom in for a better view. In our example image, a **Luminance** setting of **30** was sufficient. Leave the **Detail**, which controls the threshold of the slider above it, to **50** and set the **Contrast** slider to **25** to avoid any mottling appearing on the pic.

5 Sharpen the image

Now the Noise in the image has been controlled, it's time to sharpen the pic to make the most of the detail. The Sharpening controls are just above the **Noise Reduction** options. The **Amount** slider makes edges more defined as it is dragged to the right. In our image this was set to **25**. The **Radius** controls the size of the edges sharpened and this was set to **1.0**. The **Detail** slider was kept low at **25** to avoid creating any artefacts and, lastly, **Masking** was set to a mid-range value of **50**. If you plan to edit the picture further in Photoshop or Elements, it's best to avoid this step in Lightroom altogether, and sharpen the image as the last stage of the editing process.

2 Balance the exposure by brightening the frame

Shooting in difficult low-light conditions will almost always require some adjustment to the overall exposure. In the **Basic** tab, the two important sliders you'll use are **Exposure**, which brightens or darkens the whole image, and **Shadows** (also called **Fill Light** in older Lightroom versions), which brightens the dark areas in your image. Using both sliders gives a more balanced exposure increase but it's important to remember not to push exposure levels too high as this can compromise image quality – especially when the image was taken at a high ISO. In our example image, **Exposure** was increased to **+0.80** and the **Shadows** to **+50**.

3 Reduce the colour Noise in the scene

Within the **Develop** module, scroll down to the **Detail** tab, which groups together **Sharpening** and **Noise Reduction**. Before making adjustments, hover the mouse over the subject's face and click, as this will magnify the area to a 1:1 zoom, giving you a close-up view of your pixels and any changes you make. Under the **Noise Reduction** options, locate the **Color** slider. Hold **Alt** and drag this to the right until the multi-coloured speckling of the chrominance noise disappears. In our example image, a setting of **70** proved to be sufficient to combat the Noise caused by the high ISO setting of 1600.

6 Add a dark vignette

Zoom back out by hovering over the main preview screen and clicking. With portraits, adding a vignette creates a dark edge to the picture and can help focus the viewer's attention on the subject. Scroll down to the **Effects** tab, and find the **Post-Crop Vignetting** sliders. With the **Style** drop-down menu set to **Highlight Priority**, drag the **Amount** slider left to around **-20.** You'll see the corners of the frame get darker.

7 Brighten the eyes using the Adjustment brush

As a final touch, the subject's eyes can be brightened to enhance the catchlights created by the candlelight. At the top right of the interface, just below the Histogram, select the **Adjustment Brush**. Change the size of the brush using the square bracket keys and then brush over your subject's eyes. A selection of adjustment options will be boxed out. Select the **Exposure** slider and drag it to the right to brighten the eyes – a value of **+0.30** was used in our image. Click **File→Export**, and when you're happy with the settings, click **OK**.

UNDERSTAND & USE YOUR CAMERA'S KEY FEATURES
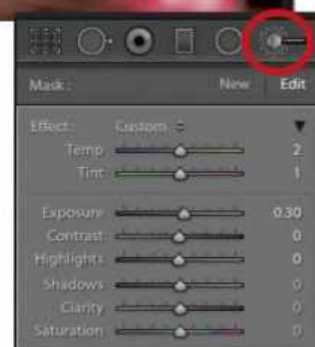
POP-UP FLASH

Unlock the secrets of lighting with your DSLR or CSC's built-in flash unit

TECHNIQUE & PICS BY BEN DAVIS

Good lighting is often the difference between a great photograph and a frame that's got a date with the delete button. Sometimes subject detail is lost to dark shadows, or there just isn't enough light to get a bright and clear shot. This needn't be the case though, as nearly every DSLR and CSC comes with its own portable lighting device: the pop-up flash. It's a brilliant tool for adding extra light to a scene, and used correctly it can rescue your shot in many challenging light conditions. The pop-up flash isn't just about saving a shot, though – it can also *make* a shot. Portraits massively benefit from the sparkle of catchlights in a subject's eyes, and the pop-up flash can also be used to trigger strategically placed accessory flashguns. There's more than meets the eye to these simple lighting devices, and every photographer needs to know how to take advantage.

What is pop-up flash?

For many new recruits to creative photography, the first experience of pop-up flash is a frustrating one. When working in low-light conditions, it's constantly leaping up into action – and you'll often see snappers slapping it back down – only for it to defiantly spring back up again!

Pop-up flash is a really handy built-in light source, and can be used for fantastic creative effects.

This will be the case if you're shooting in any of the fully-automatic modes. When there's not enough light to get a sharp shot, the camera calls upon its pop-up flash to illuminate the scene. You can avoid this annoying encounter by instead shooting in one of the creative modes, such as Aperture priority, Shutter priority or Manual mode. The pop-up flash will only then be able to fire if you activate it yourself.

It's much better to take control this way, as many low-light conditions don't warrant a burst of flash, whereas in bright light you'll often need it to fill in distracting shadows on your subject.

> ## "WHEN THERE'S NOT ENOUGH LIGHT FOR A STEADY EXPOSURE, THE POP-UP FLASH IS CALLED TO ACTION"

How does it work?

Unless otherwise programmed, the pop-up flash is set to TTL mode. This stands for 'through-the-lens' metering, and the exposure for the flash is calculated via the amount of light coming into the camera, rather than an external metering system.

The great news is, this means your camera does all the maths so all you have to do is take the shot. However, if you find the results aren't quite right, you can adjust the flash output by up to 3 stops using Flash Compensation. This makes it easy to make the flash more or less powerful, giving you more control over the lighting. In most cases, the lighting will be a combination of ambient and flash light, so learning to balance these will result in better pictures.

Taking control of your camera's pop-up flash

Most cameras have a button near the pentaprism to launch the pop-up flash.

Manually enabling your camera's pop-up flash unit is easy in any of the creative shooting modes. On most DSLRs and CSCs it's controlled by a small button situated near the pentaprism on top of the camera, just below where the flash unit is housed. It's identified by the flash icon, which looks a little like a lightning bolt with an arrow on the end. One press of this button is enough to rouse it from its dormant position, and it's ready to use. Half press the shutter button to set the focus as you would normally, and then when you take the shot the flash will automatically fire. You might notice it actually flashes a couple of times. If it does, this will be because your camera has its 'red-eye reduction' feature enabled. This pre-flash helps close down your subject's pupil, so you're less likely to encounter those devil-red eyes! Once you've finished needing it for your shots, just push it back to the closed position to disable it.

With pop-up flash

Without pop-up flash

WHEN TO USE THE POP-UP FLASH UNIT

It might seem counter-intuitive, but using pop-up flash can be just as useful in bright daylight as it can in dim conditions. Lots of people often remark that bright, sunny days are perfect for photography, and while there may be lots of light, these conditions create a bigger set of challenges. Shooting portraits in circumstances like these is the ideal time to use your pop-up flash, as it'll help lift dark shadows under the eyes and nose, and create a much more pleasing image. In fact a little bit of flash will enhance almost any portrait, as the extra light will help separate your subject from the background, improve colour saturation and add a lively sparkle to their eyes.

Of course, flash is also a shot-saver when it gets too dark, but only when your subject is close to the camera. For far away subjects, there's no point in using pop-up flash as it has a short operational range.

When to avoid using your pop-up flash

Distant subjects
A pop-up flash unit has limited power, so is only effective for up to around 3m. It has no impact on more distant subjects like concerts or landscapes, so turn it off.

Going unnoticed
Sometimes you'll need to be discreet so as not to alert your subject; this is particularly true when capturing wildlife. A burst of flash is the quickest way to get noticed.

Ambient atmosphere
In some low-light circumstances, it's much better to use a higher ISO and make the most of the ambient light. Flash light can be harsh, and can kill the mood conjured by softer lighting.

How to get the best results with your pop-up flash

While the pop-up flash can be great at adding more light to a scene, it's far from perfect and can create extra distractions in a shot. This is because the light from the pop-up flash is direct, and it is emitted from a small surface area. Both these factors mean the quality of the light can be rather harsh, with hard-edged shadows behind subjects and bright glare from reflective surfaces. But these commonly encountered problems can easily be avoided with a few simple adjustments beforehand.

To eliminate those harsh and unsightly shadows that appear behind a subject when pop-up flash is used indoors, you need to blend your flash with the ambient light. You can do this by reducing your flash output power, or by moving your camera further away from your

It's best to try and avoid harsh shadows that fall behind subjects when the pop-up flash is fired.

subject and then zooming in more with the lens to compensate. To increase the brightness of the ambient light, you'll need to set a higher ISO if you're shooting manually, or use +1 stop of Exposure Compensation if you're shooting in Shutter or Aperture priority. This will better balance the two light sources in your shot, and reduce the shadows caused by the pop-up flash.

You'll also encounter unattractive shadows if

"TO ELIMINATE SHADOWS YOU NEED TO BLEND YOUR FLASH WITH THE AMBIENT LIGHT"

your subject is too close to the background, such as when taking a portrait in front of a wall. The previous steps will help reduce the strength of the shadow, but you'll improve your shot further if you ask your subject to step away from the wall, and if you move further from the same wall, too.

This is because the strength of the flash reduces as distance increases, and means that any shadows will be made softer. Shooting with the camera held horizontally will help too, as when the flash is to one side the shadows are exaggerated even further.

Create a softer flash light

To create a more flattering effect from your pop-up flash, you can diffuse the light so it is emitted from a larger surface area.

While there are many flash diffusion devices on the market, a single roll-up cigarette paper fixed in front of the flash is often just as effective, and is much more friendly on the wallet! It even comes with its own attachment method. Just lick the glue and fix it in place, and then peel it off when you're done.

Not only will a 'Rizla diffuser' help spread the light to cut down on shadows, it will also reduce any specular highlights on reflective surfaces like skin or glasses.

Use flash compensation to control the brightness

TTL metering mostly does a good job of getting the mix of ambient and flash lighting right, but while cameras are good, they're not foolproof. Sometimes you'll need to take control for more natural-looking pics, or for more creative results. This is easy to do with Flash Compensation, and you can quickly alter the flash brightness by up to 3 stops.

Some manufacturers vary in how the flash compensation is set, so you may need to consult your manual. Most allow it to be

adjusted by holding the flash activation button and scrolling the main command dial. Any adjustments will be displayed on the LCD info panel or rear screen. On some cameras, however, the flash compensation is set within the main camera menu.

Decide if you want more or less flash power, and then begin by adjusting the flash compensation controls accordingly. Shoot and check the results, and then make any other adjustments as necessary.

**Adjusting flash brightness is easy and puts creative control for lighting balance at your fingertips.**

Using Rear and Slow Sync settings to get creative with your pop-up flash

Most DSLRs and CSCs have Rear and Slow Sync flash settings. These allow you determine when the flash fires during a longer exposure.

Rear Sync, also known as 'Second Curtain Sync', fires the flash at the very end of the exposure, just before the shutter closes. Slow Sync fires the flash at the start

of the exposure. Both are great for creating motion trail effects in your images, but differ in where they fall.

Rear Sync puts the motion trail behind your subject, as the flash fires at the very end, freezing your subject in place. This gives the most natural-looking results and creates a clear impression of movement.
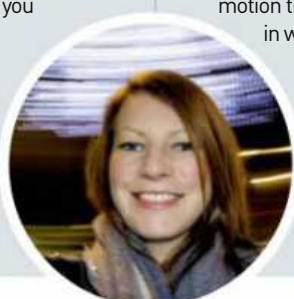
Slow Sync freezes your subject at the start of the exposure, and any motion that then occurs becomes a blur in front of the direction of movement. This is great if you want to add creative effects by moving your camera after the flash has fired. Any other bright parts of the scene are rendered as bright streaks across the frame. Slow Sync flash is a superb way to add energy to low light action shots, particularly when there are background lights.

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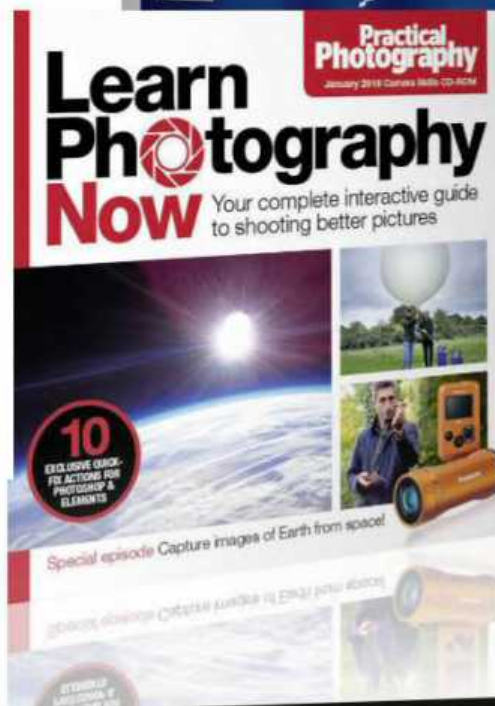Take your photography further with personal projects and advanced shooting-and-editing challenges.

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Get better portraits with pop-up flash

Using your camera's flash to improve your outdoor people pics is easy. Follow these steps to add extra drama to your lighting and put a sparkle in your subject's eyes!

1 Dial in your camera settings

To begin with you need to set your camera to its optimum portrait settings. Start off with the ISO – this wants to be low to reduce the risk of digital Noise (grain), so set it to 100. You can always increase it later on if you find your shutter speed is too slow. Set your main mode dial to Aperture priority (A or Av), and select the lowest f/number your lens allows. If you're using a kit lens it'll likely be between f/3.5 and f/5.6, depending on your particular lens and the focal length selected. Frame up on your subject and check the shutter speed is below 1/250sec, as that's the fastest shutter speed most cameras can operate with flash. If it's faster than this, dial in a higher f/number until you're getting the correct reading. To slightly underexpose the background, and thus help your subject to stand out more, dial in -1.0 stop of Exposure Compensation. You can do this by holding the +/- button and scrolling the main command dial.

2 Activate your pop-up flash

To activate your pop-up flash, simply press the flash button once and it'll launch itself into position. To help make your subject stand proud of the underexposed background, you need to add +1.0 stop of Flash Compensation. Most cameras allow this to be done by holding the flash activation button and scrolling the command dial. Some manufacturers do vary from this though, so you may need to check your manual. Your camera is now set up to capture a portrait with dramatic lighting.

3 Focus and shoot

With your focusing mode set to its Single setting (AF-S on Nikon, One Shot on Canon), place your central AF button over your subject's nearest eye and half-press the shutter button to set the focus. Keep the button half pressed while you recompose. The focus will stay locked. Once you've finalised your composition, fully depress the button to take the shot. Examine the results on screen and see if any adjustments need to be made.

If you want to make the background darker, add an extra stop of negative Exposure Compensation, so it's now set to -2.0 stops. If your flash is too bright, then your subject will look overexposed, with the highlight detail blown out. Simply reduce the amount of Flash Compensation, or move further away from your subject. Both will have the same effect, reducing the effective brightness of your flash. Don't be afraid to experiment with these settings, as in doing so you'll find the perfect blend for your shot.

bowens

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LIGHT DIFFUSER

Soften the harsh light of direct winter sun with a do-it-yourself scrim

TECHNIQUES & PICS BY DAN MOLD

You might think the best conditions for outdoor pictures are on days when the sun is beaming down in all its glory. You can shoot at faster shutter speeds, locations are often more accessible and if you're shooting a portrait, it's much easier to get them to smile on a bright winter's day than in a blizzard! But, shooting in direct sunlight doesn't come without problems.

The sun is the brightest celestial object for about 41 trillion km. As a result, it'll come as no surprise that its light – and the shadows it casts – can be rather harsh! The lower angle of the sun over the winter months makes shadows even more prominent, and this can make it difficult to get even, diffused light – exactly the sort you need for flattering portraits.

A special diffuser called a scrim is the perfect solution, and if you want to get great outdoor portraits on sunny days, you'll need one. A scrim is essentially a large frame with a finely woven, semi-transparent material or gauze attached to it. Hold this between your model and your light source and you'll turn the raw sunlight into a soft, diffused glow. And it's not just handy for softening sunlight – a scrim can be used with any light source from a desklamp to a flashgun, so it's just as useful to have indoors.

Professional scrims come in all shapes and sizes and can easily cost hundreds of pounds. But to get the benefits without shelling out a small fortune, try our DIY version and make your own with a net curtain and a kids' hula-hoop – it costs less than a tenner!

YOU WILL NEED

- 1x Hula-hoop
- 1x Semi-transparent material
- 1x Ruler, pen & stapler
- 1x Pair of scissors
- 1x Roll of duct tape

Time needed:
10 mins

Four steps to making your sunlight diffuser

1 Measure and mark up your material

You'll need a semi-transparent material like a net curtain, and we bought ours at a home store for £5. Roll your material out flat and cut a strip off the bottom about 5cm wide. Put this to one side – you'll need it later. Lay your hoop about 10cm in from any edges of the remaining material. Use a pen and ruler to make a mark 10cm away from the hoop all the way around. To stop any ink soaking through, lay some newspaper underneath the material.

2 Cut out your circle of scrim fabric

Cut around the circle you've marked with sharp scissors. Don't worry if your cutting goes slightly awry as you can tidy it later. When you've cut out your circle, place your hula-hoop exactly in the middle, so you have an even margin around its perimeter. Now fold the excess fabric over on itself a few times and place the hemmed material on the edge of the hoop. Use a staplegun or an opened-out regular stapler to fix it in place at one point.

3 Staple the fabric to your hula-hoop

With one side anchored, turn the hoop around by 180° so you're working on the opposite side. Again fold the fabric over itself and onto the hoop and when the fabric is taut, staple it in place. Work your way around the whole hoop, stapling one side, turning it 180°, pulling the fabric tight and stapling the other side to make the scrim material nice and tight across the hoop's frame. Make sure you staple the fabric every 5cm around the hoop to keep it secure.

Get in position
Ask your model to face the sun and then frame up on them, focusing on the eyes.

Move the scrim
Place the scrim close to your model for soft shadows, or further away for harder ones.

Find a helping hand
Ask a friend to hold the scrim, or clamp its handle to a lightstand to keep it in place.

4 Add the finishing touches

If you have enough material left over, you can repeat the previous steps to add an extra skin of fabric for even more diffusion. After this, go back to the offcut you made in Step 1 – this will act as a carrying handle and clamp attachment point for mounting on a lightstand. Fold the strip over to increase its strength and staple it in place. You can also add a strip of duct tape around the rim to keep the fabric from fraying.

WHAT DOES A SCRIM DO?
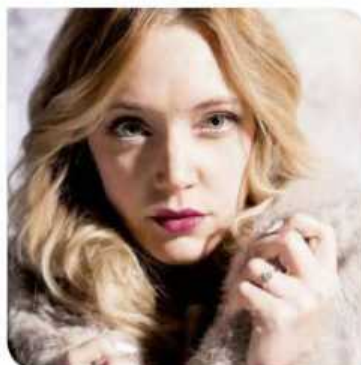
Without scrim
The unfiltered rays of light from the sun or a flashgun will cause contrasty, harsh shadows across your model's face. The glare from direct sunlight can also cause your subject to squint when facing it.
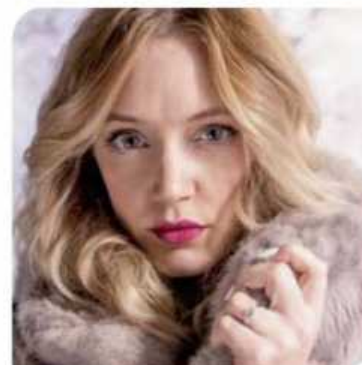
With scrim
With the scrim positioned between the sun and model, the harsh is softened and the shadows are filled to give a soft, natural look. The glare from the sun is also reduced so your model won't be squinting.

NARROW YOUR FOCUS

TECHNIQUE & PICS BY ANDY HEATHER

Textbooks can show you how to take a technically-competent portrait by focusing on your model's eyes, but when you've mastered the basics it's fun to break the rules and try something completely different. That's the *Digital Photo* way.

In this shot, we used a shallow depth-of-field and focused on a tiny detail – those striking, red fingernails. Because we used a wide aperture, the rest of the model is blurred, creating an interesting sense of intimacy mingled with mystery. All we really know about the woman is that she is made up and wearing jewellery, but many questions remain.

By not filling in all the blanks, you allow the viewer to project onto your images and apply their own meanings to them. For example, some viewers will feel that this shot is infused with passion, as if the camera is luxuriating in every detail of the model while she's looking in the other direction. Whatever your interpretation, by creating an artfully restricted point-of-view you can keep the viewer thinking about and looking at your image for longer than they would if it were a standard portrait shot. Best of all it's easy to achieve, so grab a fast 50mm lens (or your kit lens will also work) and read on to find out how you can do it yourself.

Creating a shallow zone of sharp focus and obscuring a model's face can result in a compelling and mysterious portrait.

How to frame up an arty portrait

1 Choose your colour palette

It's important to restrict your colour palette to a handful of dominant colours, as this stops your image becoming too visually noisy. In this test shot, the white top and blue jeans distract from the nails, which should be the main focus. I chose black, red and the model's skin tone to be my dominant colours. The black dress is less of a distraction, resulting in a much stronger shot.

2 Frame up using a tripod

Have your model sit on the floor and rest her arm on her knee. Set up your tripod so it's low to the ground and frame up on the hand while also including the face in the frame. Check your framing on the camera's monitor to make sure each element is where you want it. Remember, the main subject should be a third of the way into the scene. If your camera has a tiltable screen, use that to make composition a little easier.

3 Dial in settings and shoot

The best lens to use is a 'fast 50' – that is a lens with a fixed focal length of 50mm and a max aperture of f/1.4 or f/1.8. If you don't have one, use a kit lens zoomed in to 50mm. Set your camera to Aperture priority mode and dial in your widest available aperture (the lowest f/number). You'll see how blurred the face is in the viewfinder. Place your camera's AF point over the fingernails and take the shot.

EXPERT TIP Introduce a catchlight to add sparkle

The nails are the focus of the image, so it's worth taking time to make them look their best. One way of doing this is to position a desklamp in front to create highlights on them. Light sources that cause specular highlights in the eyes are referred to as 'catchlights'. In this case, we're taking the same principle and applying it to nails. You'll need to use a glossy nail varnish and experiment with the pose to get it right.

WHY THIS SHOT WORKS

Discover what makes Kaylee Greer's sumptuous outdoor pet photography so effective

WORDS BY ANDY HEATHER

A

A Rule of thirds

When thinking about camera settings, lighting conditions and holding your subject's attention, it's easy to forget to employ the basic rules of composition. Kaylee was able to keep her wits about her and compose her shot according to the rule of thirds, meaning her subject and the skyline are a third of the way from the edges of the frame.

B Off-camera flash lighting

If you were to shoot into the sun with a standard DSLR, your subject would likely be completely dark as the camera doesn't have the dynamic range to expose for the foreground and the background at the same time. By using off-camera flashes to illuminate her subject, Kaylee achieved a balanced exposure with bright, vibrant colours.

C Time of day

Kaylee chose to shoot during the Golden Hour, which is the period after sunrise (or before sunset) when the light is warmest. By taking advantage of this low-angled sunlight, Kaylee has given her shot more mood and richer colours. If she'd have shot at midday, the result would have been harsh shadows under the dog's prominent facial features.

D Depth-of-field

By using an aperture of f/14 Kaylee has created a large enough zone of sharp focus to keep her subject pin sharp. Thanks to her careful framing, there are no objects in the middle distance to distract the eye. The buildings on the skyline are blurred enough to help the subject really stand out, but not so blurred that they are unidentifiable.

What was used
Camera Canon EOS 1D X & 50mm f/1.4 lens
Exposure 1/100sec @ f/14, ISO 125
Software Photoshop **Visit** dogbreathphoto.com

Shooting during the Golden Hour gave Kaylee vibrant colours that elevated her pet portrait. She balanced out the sunset with off-camera flashguns.

B

C

D

3 EXPERTS
1 EVERYDAY SUBJECT

BUILDING ART BY THE BRICK

Take our creative challenge today!

From time to time, it's natural for photographers to fall into a rut with their pictures. This may be because they tend to shoot the same type of subjects, visit the same locations or take all their shots at the same time of day with similar light.

If any of this sounds familiar, then you need to take action to jump-start your photography. A great way of achieving this is to take on our *Out of the Ordinary* challenge. The proposition is simple – each month, three of the *Digital Photo* team are given an everyday object to shoot – something that they'd normally pass by on the search for a more worthy subject. Then, with the brief set, it's entirely up to them to bring their creativity to the front to capture an image that's more than the sum of its parts. They can use as much or as little imaging work as they like – all that's important is to make a great picture.

With the inspiration from our experts still ringing in your ears, it's then over to you to put your own spin on the ideas they've used, or go a step further and create your own image from scratch.

Be sure to keep in mind that you don't need rucksacks full of fancy gear to capture creative imagery. Working with what you have will be enough to let your ideas come to life – the only limitations are your imagination!

THE SUBJECT
A simple brick...

OUR THREE PHOTOGRAPHERS
The team share their creative approach to making pics

Shot 1
Andy creates a visual metaphor with a brick wall

Shot 2
Dan engineers a DIY sci-fi scene with mist and lightbeams

Shot 3
Matty suspends reality with a brick-proof wine glass
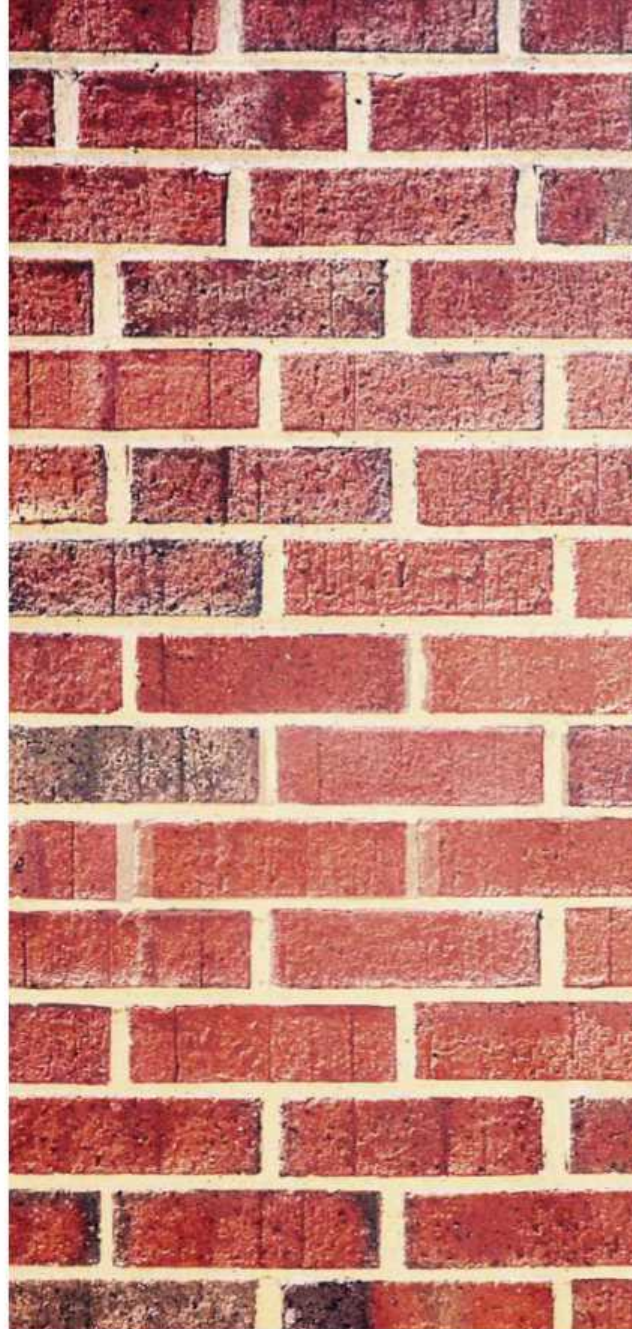
Andy **breaks**

SHOT 1
Coming up with a concept for this month's challenge was a two-step journey. My first thought was an aesthetic one. I like those images in which a solid object appears to take on a softer quality, such as when it becomes liquid or fabric. The second step was to consider the connotations of a brick wall. Brick walls are often used to represent division or control. Breaking through a brick wall to an idealised space beyond is a positive visual metaphor. I thought if I could combine those two ideas I'd end up with an interesting image.

My theory is that if you show a person's face, the image becomes about that person, but if you obscure the face, the subject starts to become symbolic of humans in general, rather than one specific person.

To make sure the shot was as metaphorical as possible, I decided to shoot my model from

Andy blended a shot of some curtains with another of a brick wall for this composite image.

through to the other side

behind and obscure their face. For the composite to work I needed the curtains to fill the frame from top to bottom. With my location chosen, the next step was to choose the right camera settings. I needed the figure to be visible, but I needed the outside to look overexposed, so I set my aperture to f/8 and increased the exposure compensation until the outside was really bright. The reasons for that were two-fold. Firstly, the visual metaphor required bright light to spill in from the other side of the wall to represent the better space beyond. The

second reason was that if the window was nearly white, it'd be easier to cut out the model and replace the scene beyond in post-processing.

I took a shot of a brick wall and another of a blue sky, then opened all three shots into Photoshop to blend them. I opened the sky first, then placed the model above that and the brick wall on top. I left the sky's Blending Mode on Normal, changed the model's to Linear Burn and the wall to Linear Dodge. I also used the Liquify tool to distort the bricks around the folds. Finally I masked out the parts of the wall that were over the window, and the parts of the sky that covered the model.

BRICK WALLS ARE OFTEN USED TO REPRESENT DIVISION

Andy kept his living room dark to make sure the outside was overexposed and almost white.

Lessons learned

Initially, I was going to leave the Blending Modes of the Layers on Normal, but after some experimentation I found that changing them worked better. Doing so allowed me to get a more subtle look to the sky and to brighten the parts of the wall surrounding the opening. This gave the impression that light was flooding in. A bit of trial and error while you're editing can often lead to happy discoveries like this.

Dan shot his engineering brick in a dark garage, lighting aerosol spray with a hand torch to create evocative, misty light beams.

DAN MOLD / BAUER

Dan builds a sci-fi set with deodorant smoke

SHOT 2 The quirky engineering brick I use to keep my garage door open instantly popped into my mind when I was given the brief. It has a trio of holes in its body and I knew a creative image could be teased out of it. I thought shafts of light could look quite striking, so I grabbed my torch and headed into the dark garage to set up a low-light still-life.

I positioned the brick at a slight angle on a table – I wasn't too fussed about the messy background as it would be too underexposed to register. I attached my camera to a tripod and framed up with the brick about a third of the way in from the right side of the frame. This would allow enough space for the shafts of light to come through the holes. I used AF to focus on the brick and then locked the focus by switching over to MF mode.

I decided to use a hand torch to sculpt the shafts of light. When you're adding your own

YOU CAN ADD YOUR OWN SMOKE AND MIST EFFECTS WITH A CAN OF AEROSOL SPRAY

light source, it's best to put your camera into Manual mode. Here. I dialled in an ISO of 100, a shutter speed of 5secs and an aperture of f/8. I then activated the 2secs Self-timer, switched on the torch and flicked off the garage light. The torch guided me back to the camera. I had to be careful not to nudge the tripod in the dark, as this would ruin the focusing I'd set. I pressed the shutter and backlit the brick by holding the torch just behind the holes. The shafts appeared quite weak when I reviewed them on the camera screen, so I grabbed a can of deodorant spray. I then repeated the setup, this time firing a little spray through the holes, being careful to avoid the lens.

The results were much more promising, so I took three separate shots to create each individual lightbeam. Because the camera hadn't moved it was easy to stack them into layers and merge them into a single image in Photoshop.

With the camera set up on a tripod, Dan sculpted shafts of light through the brick's holes using a hand-held torch and a few squirts of aerosol spray.

Lessons learned

You'll want to work in a large or well-ventilated space when using an aerosol to create 'smoke', so open a door or window between shots to get rid of the spray.

Working in a dark room is also a bit of a hazard so make an effort to clear the floor of any items that could trip you up when the lights are off. You don't want to nudge the camera when you're part-way through.

With a little help from Photoshop, Matty turned the concept of a strong brick on its head.

MATTY GRAHAM / BAUER

A small table-top space was all that was needed to capture the glass and broken brick components used in this fun composite image.

Matty creates a brick-proof glass

SHOT 3 When I heard this month's theme was to be 'brick', I thought about the properties that people associate with such an object. We use bricks to build things, but why? Because a brick is so strong, of course. But what if that attribute was turned on its head and the brick became fragile? This inverted idea formed in my head and I decided to set up a shot showing a brick falling onto a wine glass. You'd expect the glass to be shattered, but with the magic of Photoshop, I decided that it would be the brick that would break up on impact.

I started by capturing a nice image of the glass on some coloured paper. A studio flash kit was used, with the heads set at 45-degree angles to the glass. The next step was to fake the broken brick effect and this involved some effort. A hammer and bolster chisel (eventually) cut the brick into two neat halves, which

would fall on either side of the glass. I also chiselled off smaller chips of brick that would enhance the effect of the brick being split in two. I returned to my coloured paper background and shot the brick pieces. I held these roughly in place around the glass, as I could tidy them up in Photoshop.

With all the elements captured, it was time to merge them together. After copying and pasting the two half-brick images into the glass shot, I used the Lasso tool to select and delete areas I didn't need so only the brick remained. A small amount of cloning was necessary to remove my fingers holding the brick in place, but this was easy to do.

The last job was to add the smaller brick fragments, which were pasted onto separate Layers and positioned. The final image was great fun to create and I was surprised to discover I'd spent half a day on it. It just goes to show that time flies when you're immersed in an enjoyable project!

BRICKS ARE TOUGH, BUT WHAT IF I COULD TURN THAT CONCEPT AROUND?

Photoshop Layers and Masks played a big part, as they allowed the components to be edited and positioned independently.

Lessons learned

The most important consideration for this image was not the big components, such as the shots of the half bricks or the wine glass. Instead, it was focusing on the details such as the brick chips and dust. By adding these in, it enhanced the effect that the brick had been shattered with parts flying everywhere. This took the most time in Photoshop, but certainly made the difference to the final image.

GUIDING LIGHT

With a creative vision ignited by the sun and stars, we meet Alessio Putzu, a landscape photographer whose images are out of this world

WORDS BY MATTY GRAHAM

Great landscape images don't happen by accident. Luck may be a factor for one or two shots, but to ensure consistent, high quality results, a huge amount of planning and effort is needed. Professional landscapers can't control subjects and light in the way that studio photographers can, as they're at the mercy of the elements. Biting cold, stinging rain and hazards like lightning are as likely as warm sun on your back, so it's not a game for the faint-hearted. In short, landscape photography is a calling, and those that follow the art are pioneers – explorers of this wild and wonderful world. One man that has taken this calling to heart is 26-year-old Alessio Putzu.

Alessio used a 17-35mm wide-angle lens to record this star trail image of Vestrahorn in Iceland.

"EVER SINCE I WAS YOUNG, I'VE BEEN TOTALLY AMAZED BY STARRY SKIES & BREATH-TAKING LANDSCAPES"

TRY **DIGITAL PHOTO**
ON YOUR **iPAD**

"EVERY PHOTOSHOOT PLAN STARTS WITH A GOOD PINT DOWN AT THE PUB"

The Italian photographer, who now lives in the UK, has quickly built up a jaw-dropping portfolio of images and is making a name for himself in the professional landscape world. The desire behind Alessio's never-ending motivation to frame up that perfect scenic shot started long ago. "Ever since I was young, I've been totally amazed by landscapes and starry skies. They make me wonder how things work up there," recalls Alessio, who started his landscape journey by purchasing a telescope, before moving on to a DSLR to capture the hidden beauty in the night sky. When Alessio found astrophotography to be limiting due to its high cost, he tested the waters with macro, but found the art too delicate. So instead of shooting stars hundreds of light years away, Alessio started closer to home and began building a portfolio of stunning landscape images that often feature golden light or star-speckled skies.

Alessio is a self-taught photographer who rates getting out in the field with a camera to be a more productive learning experience than any book or video. His transition from keen enthusiast to professional occurred when instead of going out with his DSLR to get a memory card full of images, he started to plan trips more carefully. This increased his chances of getting exactly the end results he had visualised. "It helps you understand what sort of imagery you're capable of shooting and, in turn, helps you identify a market to work in," explains Alessio.

So how does one of Alessio adventures kick-off? "Everything starts with a good pint down at the pub with my photography friends," he says. "Once a destination and some backup locations are decided on, I use an app called PhotoPills which is a great resource for checking sunset and sunrise times." The planning continues as Alessio checks the tide times a few days before travelling to make sure any coastal locations will be accessible. The last variable to be checked is the weather. As he's well aware, the UK weather

Top A 10-stop filter was used to create this stunning long exposure of Boscastle in Cornwall.

Above After months of planning, Alessio captured this 30secs long exposure of his tent under the Snowdonia sky.

Right The wind was so strong at Dyrholaey in Iceland that Alessio had to physically hold down his tripod.

"I GOT IN THE CAR AT 8PM AND ARRIVED IN SCOTLAND AT 5AM FOR THE SUNRISE"

can change rapidly – usually for the worse! If everything is looking good, Alessio will jump in his car, get to his location, take his shots, and then retire to a local pub to edit his images over another nice pint.

While location choice is a very personal selection, there are a number of elements Alessio looks for. Lighthouses are a powerful draw as they provide a strong compositional focus, as are coastlines as they introduce the motion of the sea into a scene. But it's mountains and waterfalls that prove irresistible to Alessio – subjects he describes as 'pure nature'. Remote locations take time to reach and as the light fades away, retreating to a handy hotel is rarely an option. But Alessio is more than happy to rough it in a tent and rack up the miles to create his art. "My longest trip in the UK to get pictures was a journey from London to Scotland. I got in the car at 8pm and arrived at Buachaille Etive Mòr at 5am to shoot the sunrise. I then headed on to the Isle of Skye to photograph Elgol, Quiraing and Neist Point Lighthouse," remembers Alessio. "When I got back to London, the clock on the car said I had covered 1500 miles. And, do you know what? I would do it again in an instant."

For this committed photographer, sleeping in a tent under the stars is less of a hardship and more of a way to make a purer connection with nature. And the starfield above this temporary accommodation is the first bit of payback for making the effort of travelling long distances.

"Lots of people always ask me what comes in my mind when I decide to spend nights out in the wilderness, but when I get back with my pictures, they start to understand the reason. For those that don't get it, I always let them know that a camera won't go out by itself to take photos."

While remote locations produce wild imagery, they can also prove dangerous. When Alessio was shooting on a beach in Sardinia, he nearly pushed the limits too far. He was capturing a shot of the Milky Way when a huge storm

Top A ground-level composition showed the scale of this icy moment on the black sands of Jokulsarlon beach in Iceland.

Right This starry silhouette, shot in Sardinia, is actually a self-portrait. Alessio triggered the camera remotely and had to stay perfectly still for the 30secs exposure.

rolled in with lighting strikes hitting the sea ahead of his rocky viewpoint. In a split second, the storm was raging above him, but he was living in the moment and kept shooting. With a flash, lightning struck just metres away from his metal tripod and he could feel the electricity in the air, buzzing around him like a swarm of lethal bees. "That was the moment I knew Mother Nature had shown her best and it was time to retreat to the car."

Alessio doesn't wait until he's back home to start the processing work on his images. Instead, he fires up his laptop in the middle of nowhere. His digital workflow starts in Adobe Camera Raw so he can straighten horizons, correct for lens profiles and balance Shadows and Highlights. ACR is then swapped for Photoshop so Alessio can run the opened RAW file through a special Luminosity

Mask Easy Panel. This he downloaded from the website of fellow pro photographer, Jimmy McIntyre (interviewed in the June 2015 issue). Alessio names his favourite plugin as Color Effects Pro from Nik Software, as this helps to add a warm glow to his pictures. He usually spends between 30 minutes and two hours per image to complete the editing.

"Some people think Photoshop is cheating, but we live in the digital era. People may think it looks fake because they don't understand what Photoshop can do," says Alessio. "Processing is important to me because I want to give the image the same colours and light I experienced with my own eyes." First class image-editing skills are essential to stand out in what is a very crowded marketplace, and Alessio is well aware the industry is in transition. "It's a busy pond. Everyone can call themselves a professional

Top A shallow aperture of f/2.8 and a 30secs exposure helped capture the Milky Way above this Sardinian ruin.

Above right Using the PhotoPills app, Alessio can plan where to shoot for the best golden light angles, such as Hartland Quay, Devon.

Far Right Grad filters helped balance the sky and foreground at Glyder Fawr, Wales.

THE KIT ALESSIO USES TO SHOOT GREAT PICTURES

Packed into his Clik Elite backpack there's a Nikon D750 DSLR with a Meike battery grip. For lenses he uses Nikkor 24-85mm and 105mm macro optics, and a Samyang 14mm f/2.8. But his favourite lens is the Nikkor 17-35mm f/2.8.

A pouch of filters includes Lee Filters' Big Stopper and Little Stopper for long exposures, the Lee Landscape Polarizer 105mm, and a selection of hard and soft-edged graduated filters. These all slot into a Lee Filters 100mm holder system.

He always packs an assortment of LED torches, along with extra batteries, lens cleaning cloths and a remote release. His tripod is the Manfrotto 055 XProB model fitted with the X Pro 3-way head. "It's one of the sturdiest tripods I've ever used and allows me to set up a composition really quickly."

QUICKFIRE QUESTIONS

Q Apart from cameras/lenses, what's your most important accessory?
My wellies! If you can shoot in the water you get more unusual compositions. My second choice would be my barbecue as it's always great to enjoy warm food while shooting at a cold and wet remote location.

Q Who inspired your photography?
Ben Canales, a travel and landscape photographer from New Jersey, inspired me with his night images. Another mention goes to Tommy Eliassenand his pictures from Norway. There's also a special mention to Elia Locardi – a great travel photographer and such an inspiration to me.

Q Which of the countries you've visited has provided you with the best pictures?
Iceland. From amazing waterfalls and black sand beaches to gigantic snow-covered mountains. And the Northern Lights – Iceland has it all! You have to be lucky with the weather though as it can change very quickly, but I got some nice clear skies. After Iceland, the UK is next on my 'favourites' list.

Q What advice can you offer our readers?
For landscape photography, you have to be a really patient person. You can do all the planning in the world, but the last word comes from Mother Nature, so you have to be persistent sometimes. Keep trying and results will come eventually.

these days. What they forget is that it's experience that makes you a true pro," he says. "The competition is even moving into the workshop side of landscape shooting. But people often book with the cheapest outfit without focusing on the quality of the instruction."

Why Alessio admits he is still learning his craft, his pictures are speaking for themselves and his main source of revenue comes from print sales. The audience for this is swelled by the huge following on Alessio's portfolio page on *500px.com*. At the last count, his work has racked up close to a million views. "It feels amazing to get this feedback," he says. The online following has also helped open career doors with Alessio taking on more opportunities to lead landscape workshops.

As he looks forward to the next 12 months, it's not only more workshops Alessio is planning to keep himself busy. The talented shooter aims to set up a photo exhibition in London to showcase his imagery. "Without a screen in front of them, the exhibition will allow people to feel the very essence of photography – a great print that they can study in their own time." And when he's had enough of the city, Alessio plans to pack his kit into a camper van and head off to capture the most inspiring destinations. This commitment to the art meshes beautifully with Alessio's life motto: "Follow the clouds!"

INSPIRING PROJECTS THAT REALLY WORK!

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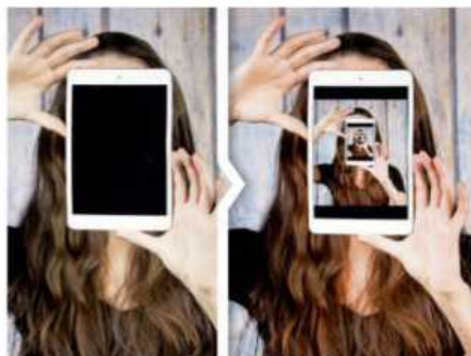
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ON YOUR EXCLUSIVE PHOTOSKILLS CD THIS MONTH

Watch the projects come to life and learn new techniques with exclusive **Digital Photo** videos!

GIVE YOUR PICTURES
AN ART ATTACK!

Use our free paint effects kit to make your own custom art templates and turn your pics into colourful, graphic images

TECHNIQUE & PICS BY DAN MOLD

50 FREE PAINT EFFECTS ON THE CD

Creating high-impact images with a graphic, painterly style is not only great fun, it also gives a fresh sense of energy to a picture. This effect is modern, vibrant and a little decadent, so to get your artistic juices flowing, we've lovingly created no less than 50 paint drip images. You can use these ink blots individually or layer them up in Photoshop to create your very own, bespoke template. Once your image is blended in, you'll have a punchy, pop-art look that'll turn your subject into an icon!

What's more, you can add a mix of bold colours to the image using a special file we've created (this is in the Start Images folder too), and the effect can be fully customised so you can fine-tune it to suit your image. Although this is brilliant for portrait shots, all kinds of pictures can be used. The important thing to look out for is strong, well-defined shapes, as these lend themselves better to graphic style pictures than more subtle subjects.

In this project, you'll discover how to copy and paste images, use Layers, apply filters and use Blending Modes, so it packs loads of important skills.

Before

This portrait was shot using a 50mm f/1.4 lens. The aperture was set to a wide value of f/1.8 to isolate the subject and throw the background into a diffused blur.
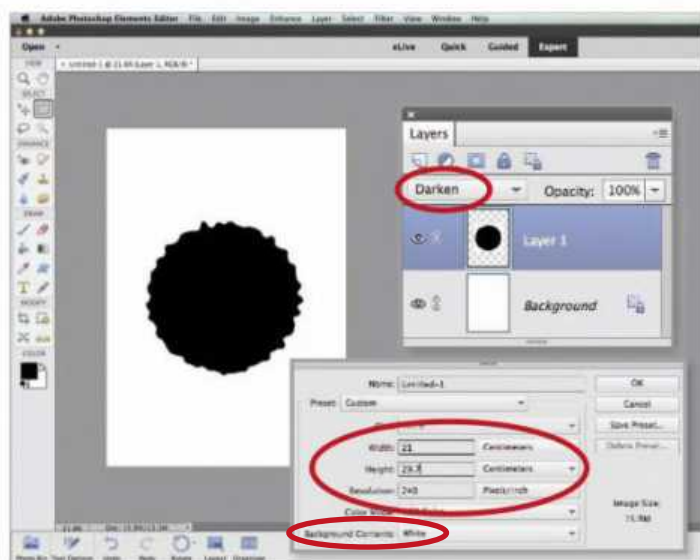
1 Create a sheet of white A4 in Photoshop

In Photoshop go to **File→New** (**File→New→Blank File** in Elements), and in the dialogue, enter a **Width** of **21cm**, a **Height** of **29.7cm** and a **Resolution** of **240**. Set the **Background Contents** to **White** and hit **OK** to create a blank white A4 document. Now go to **File→Open** and find the Start Images folder. In the Paint Effects folder you'll find 50 different paint splats to choose from, just open the one you like. Now hit **Ctrl+A** to select it, **Ctrl+C** to copy it and **Ctrl+W** to close it. Now hit **Ctrl+V** to paste it into your blank sheet of A4 pic and **Ctrl+T** to put it into Free Transform mode, then pull the corner handles to resize and hit **Return** when you're done. In the Layers panel (**Window→Layers**), change the Blending Mode to **Darken**.

2 Add a graphic styling to your pic

Open *Portrait.jpg* from the Start Images folder. Click on the **Polygonal Lasso tool** in the Toolbox and click around the subject's outline, avoiding the background. Now hit **D** on the keyboard to reset your foreground and background colours. Go to **Filter→Filter Gallery...** then **Sketch→Stamp**. Set the **Light/Dark Balance** to **30** and the **Smoothness** to **3** for a wet paint effect, and hit **OK** to apply. Now press **Ctrl+C** to copy the selected area and **Ctrl+W** to close it. Hit **Ctrl+V** to paste the pic in then **Ctrl+T** to put it into **Free Transform** mode. In the Tool Options bar, make sure **Constrain Proportions** is ticked and drag the corner handles to resize. Hit **Return** when you're done and change the Blending Mode to **Screen**.

After

Combine different paint effects with colour to get a striking graphic style.
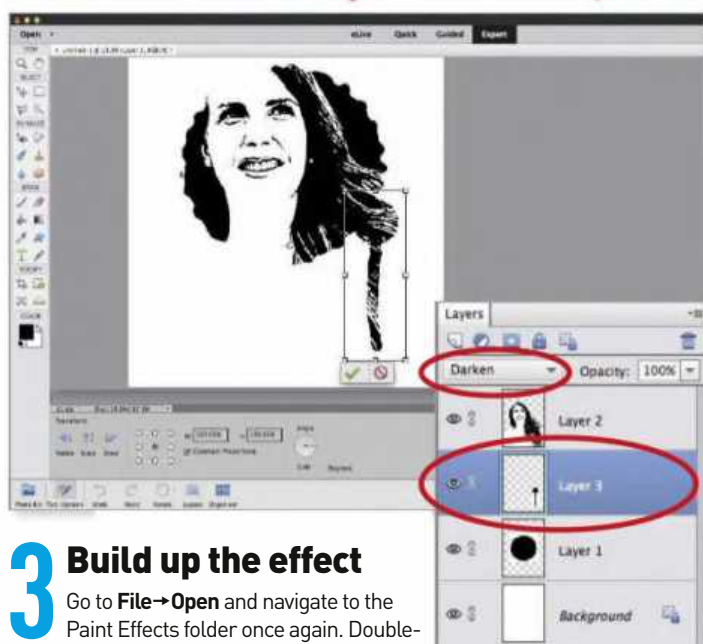
3 Build up the effect

Go to **File→Open** and navigate to the Paint Effects folder once again. Double-click on another splat you'd like to add. Select, copy and close the pic, then paste in the splat just like in Step 1. In the Layers panel change the Blending Mode to **Darken** and drag the Layer down so it sits beneath the portrait. You can resize the splat using **Free Transform** mode. To do this, hit **Ctrl+T** and with the **Constrain Proportions** box still ticked you can drag the corner handles to change size. You can also rotate the splat by hovering your cursor outside the bounding box. When you see the cursor turn to double-ended arrows, drag to the turn the pic to the angle you want. To move the splat in to position just drag it around the screen. Hit the **Return** key when you've finished to set it down. You can then repeat as needed.

4 Create a splash of colour

To give the shot a high-impact, graphic look, you'll need some colour. Go to **File→Open** and in the Start Images folder, you'll find an image called *Paint colour.jpg*. Double-click it to open it, then hit **Ctrl+A** to select it, **Ctrl+C** to copy it and **Ctrl+W** to close it down. Now hit **Ctrl+V** and it will be pasted into your main image. Change the Blending Mode to **Screen**, then hit **Ctrl+T** to put the colour Layer into **Free Transform** mode. You can now move, rotate or resize the Layer to change way the colours work in the pic. To clean up any unwanted paint splats, go to **Layer→New Layer,** hit **D** then **X** to make the foreground colour white, then use the **Brush tool** to paint over any areas you don't want. You can now save your pic via **File→Save As**.

MINIATURISE A WINTER PIC IN A SNOWGLOBE

Create a unique image by adding your own winter wonderland to our custom-made template
TECHNIQUE & PICS BY GAVIN HOEY

Be honest – when you see a snowglobe you can't resist the urge to pick it up and give it a shake! It doesn't matter if you're young or old, there's something magical about seeing flakes of snow swirling around a tiny winter scene.

For this technique, you're going to combine the magic of a snowglobe with your favourite photo to create an image full of winter fun. To help you do it, we've created a special template that's going to make the whole project quick, simple, and very effective. We've even included some falling snow – and you won't have to shake your computer to see it!

Once you've mastered the basic technique, you'll find that changing one photo for another is surprisingly quick too. So unlike a traditional snowglobe, you can swap your snowbound scenes whenever you like. The obvious choice of photo is a wintry landscape. Anything with a snowy foreground and grey skies will work, but you can experiment with lots of other scenes too. Images with elements like trees or buildings breaking the horizon will work best.

Before

Add your own wintry scenes to our snowglobe template for a seasonal image with bags of charm!
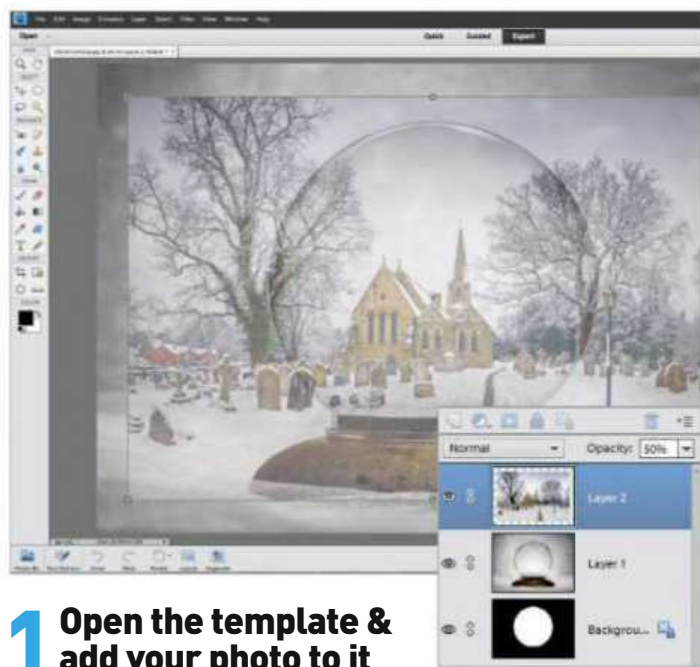
1 Open the template & add your photo to it

The template for this technique comes in several parts, so start by opening *Snow-Circle.jpg* and then open *Snow-Globe.jpg*. With the snowglobe on screen press **Ctrl+A** followed by **Ctrl+C** to copy it, then close the image and press **Ctrl+V** to paste the globe on top of the circle. Open the provided *Snow-Image.jpg* or, even better, use a photo of your own. Press **Ctrl+A** then **Ctrl+C** to copy it, close the photo and press **Ctrl+V** to paste it into the snowglobe template. Lower the Layer **Opacity** to around **50%** and press **Ctrl+T**. Drag the corner handles to fit the photo into the snowglobe as you see fit. Press **Return** when done and return the **Opacity** to **100%**.
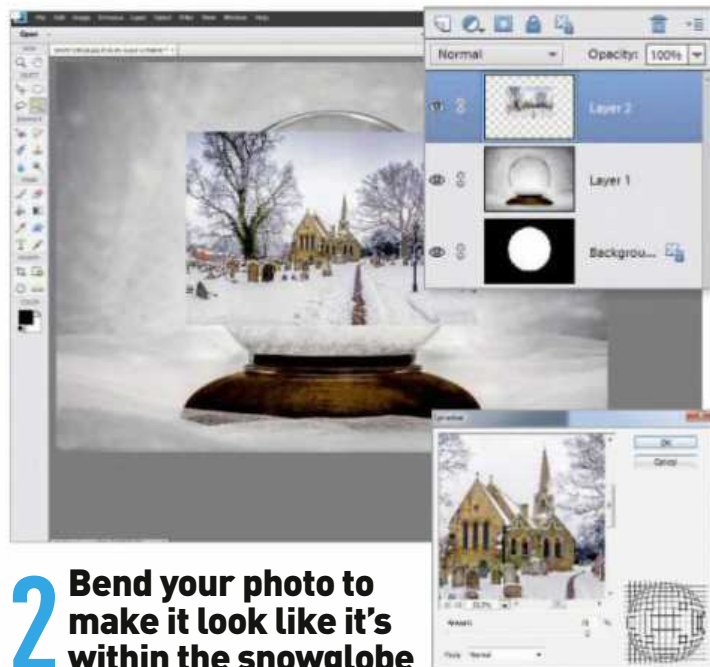
2 Bend your photo to make it look like it's within the snowglobe

The trick is to make the photo look like it's inside the globe by bowing it a bit to create some distortion. Click the 'eye' icon next to the top two Layers – this will switch off their visibility. Then click on the circle Layer to make it active. Select the **Magic Wand tool** and click anywhere inside the white circle to make a Selection. Click the 'eye' icons again to restore their visibility and then click the top Layer thumbnail to make it active. Now go to **Filter→Distort→Spherize**, set Amount to **+75%** and click **OK**. To hide all the excess image, go to **Layer→Layer Mask→Reveal Selection** and then change the Layer's Blending Mode from **Normal** to **Multiply**.
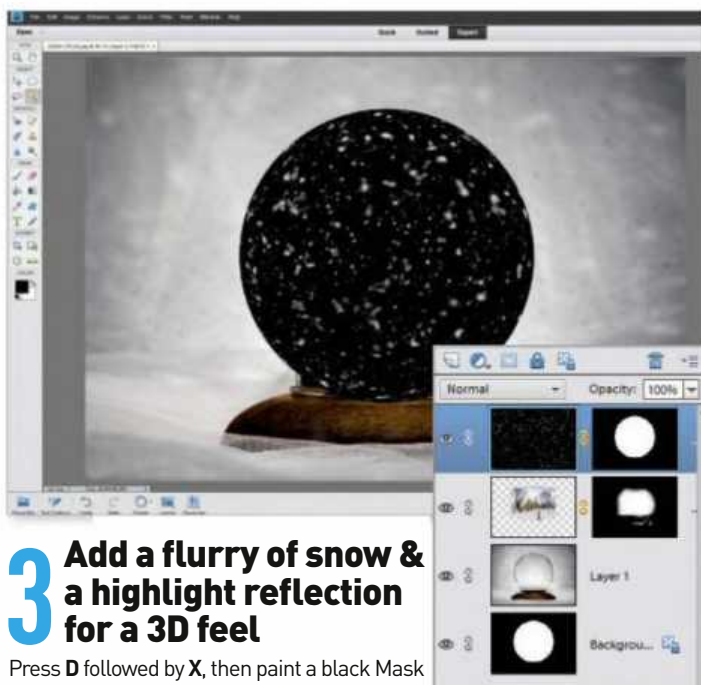
3 Add a flurry of snow & a highlight reflection for a 3D feel

Press **D** followed by **X**, then paint a black Mask around the edge of the snowglobe with the **Brush tool** (**B**). Use a large, soft brush for this, then use a smaller brush to blend the snow within the globe with the foreground of the photo. You'll now need some falling snow, so open *Snow-Pattern.jpg*, then copy and paste it as before. Make a Selection from the circle Layer as before, apply the **Spherize** filter to the snow and go to **Layer→Layer Mask→Reveal Selection**. Change the Layer's Blending Mode from **Normal** to **Screen** and paint away any excess snow. To finish, add *Snow-Reflection.jpg* to the template, change the Layer's Blending Mode to **Screen** and lower the **Opacity** to around **50%**.

+ BONUS VIDEO Make it snow!

No snowglobe would be complete without flakes of snow, and of course we've supplied some to use with the template. However you might want to customise your snowglobe with your own snow effect or create snow for another project altogether. In our extra video, you'll discover a quick and easy way of doing this. You can catch the bonus video, which is completely free to watch on our website.

All you have to do is sign up to our *Technique of the Month Extra* mailing list online at *www.photoanswers.co.uk/extra*. Register now, and you'll get a fantastic free video to boost your skills every single month, so you'll never be short of new digital techniques to try.

You can find out how to create your own snowfall from scratch by watching our free video lesson on *www.photoanswers.co.uk*

CREATE AN INFINITE TUNNEL PORTRAIT

Learn how to place a picture within a picture to create an endless, hall-of-mirrors effect in a matter of moments

TECHNIQUE & PICS BY ANDY HEATHER

When you first saw this image we'll bet you asked yourself, 'What's happening in that shot? Is the model shooting herself with the tablet's rear camera? Or is she using the front-facing camera to shoot a mirror that has been placed in front of her?'

That's the joy of a classic trick shot that can't be created in camera – it's sure to get people thinking! We're all surrounded by screens nowadays, from TVs to phones, tablets and monitors. This proliferation has changed the way we see and experience the world, which in turn

has been reflected in photography. In this pic we take a shot of a model holding a tablet in front of her face and repeat it to create an endlessly-recurring series of images within images. All you need to make this image for yourself is a shot of a person holding a screen of some description. You then open that shot in Photoshop or Elements, duplicate it and resize it until it fits into the screen being held. Repeat that four or five times and the result is an image that is suggestive of great complexity, despite the fact that it takes just a few minutes to achieve!

Before

We shot our model in front of a simple backdrop holding a tablet. We took special care to make sure her fingers weren't covering or obscuring the screen at all.

1 Open, duplicate & resize your shot

Open up your shot of a model holding an iPad or screen in front of their face. If you'd prefer to practise with our shot first, you'll find it in the Start Images folder – it's called *iPad.jpg*. When it's open, duplicate it once by pressing **Ctrl+J**. Now hit **Ctrl+T** to go into Free Transform mode and shrink it down by dragging the corner handles around the bounding box until the model fills the iPad screen. To judge the size more accurately, drop the Layer's **Opacity** to **30%** so you can see through the image. This will deactivate **Free Transform**, so if you want to resize the image further, you'll need to hit **Ctrl+T** again to reactivate it. Hit **Return** when you're done.
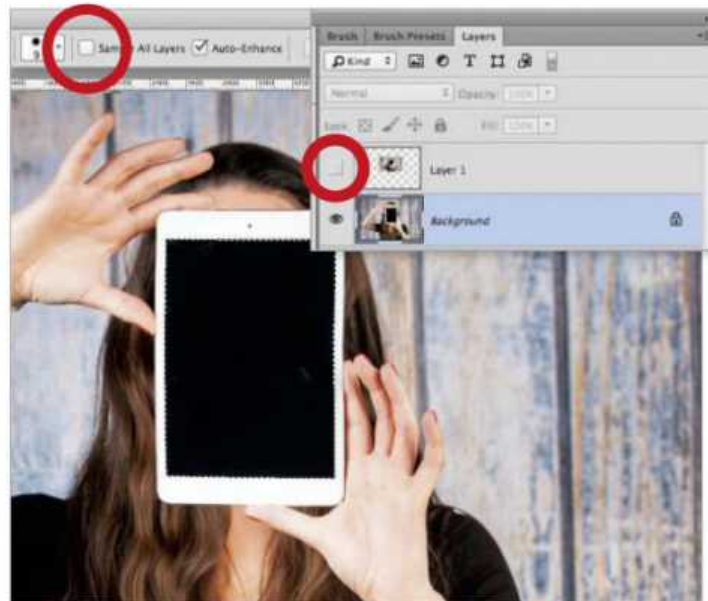
2 Create a Selection around the screen

Now you'll need to make a clean, accurate Selection of the screen area of the iPad. This will allow you to mask it out. To do this, click the 'eye' icon next to the duplicate Layer at the top of the Layers panel. This will switch it off and make it invisible. Now click once on the **Background** Layer in the Layers panel to make it active. With the **Background** Layer selected, activate the **Quick Selection tool**. In the Tool Options bar, ensure that **Sample All Layers** is *not* ticked. Click and drag around the black areas of the iPad screen, being careful not to select any of the white bezel. Keep clicking and dragging until the entire screen is surrounded with 'marching ants'.

After

By duplicating and transforming, we have created a sense of infinite regression in the screen.

3 Create a Layer Mask

Make the top Layer visible again by clicking once on the 'eye' icon's space. Now click on the top Layer to highlight it. With the top Layer active, click on the **Add layer mask** icon (the square with a circle within). Photoshop will create a black and white Mask alongside the Layer that reveals the selected area and hides everything outside that Selection. The top Layer will now appear to be an image on the screen of the tablet.
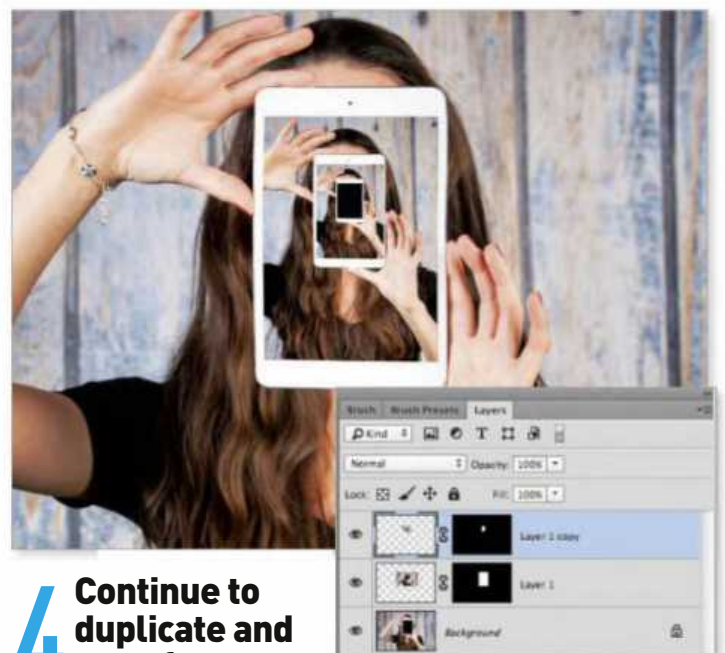
4 Continue to duplicate and transform

The top Layer is now cropped to the exact proportions of an iPad screen, so all we have to do is duplicate it and resize it to make it fit in the next iPad. To do that, hit **Ctrl+J** again to duplicate the top Layer, then **Ctrl+T** to activate Free Transform. Drag the resize handles while holding down the **Shift** key to retain the proportions of the image. When it fits in the next iPad screen, hit **Return** to commit to the changes. Repeat this process as many times as you like to create a sense that the image is being repeated to infinity. When you're finished, go to **File→Save As** and give your file a new name.

TAKE CONTROL
OF COLOUR &
CONTRAST

Use Lightroom's powerful processing tools to restore lost detail in your contre-jour RAW files

TECHNIQUE & PICS BY BEN DAVIS

Shooting against the sun is a great way to inject extra drama into your scenics. The battle between light and shade results in a fantastic contrast, and the bursting sun rays always add an extra element of interest to any sky.

It doesn't come without its own set of problems, though. Working against the light – or *contre-jour* to give it its correct photographic term – makes it very difficult to meter the scene correctly. This means you'll end up with areas which are either under or overexposed, as the extent of the tones goes beyond a camera's dynamic range.

Fixing issues like these is easy with Lightroom. We'll show you how to use the tools designed to restore lost detail and enhance washed-out colours.

At a glance

You'll learn How to take control of the tones in a RAW file, and restore lost detail and boost faded colours
You'll need Lightroom 5/CC or Photoshop CS6/CC
Time required 15 minutes
Difficulty level Medium

On the disc

Video lessons Watch as Ben runs through this must-learn Lightroom technique on your computer screen.
Start images Try out the project using the *Mongolian sun.dng* RAW file. The picture can be found in the Start Images folder.

Before

This shot was taken from the walls of a Buddhist monument, overlooking the town of Uliastai in western Mongolia. The bright sun has resulted in blown highlights and buried shadow detail, plus it has produced a flat contrast that has left colours muted.

After

After some simple RAW adjustments, colour and detail has been restored to give a far more satisfying result.
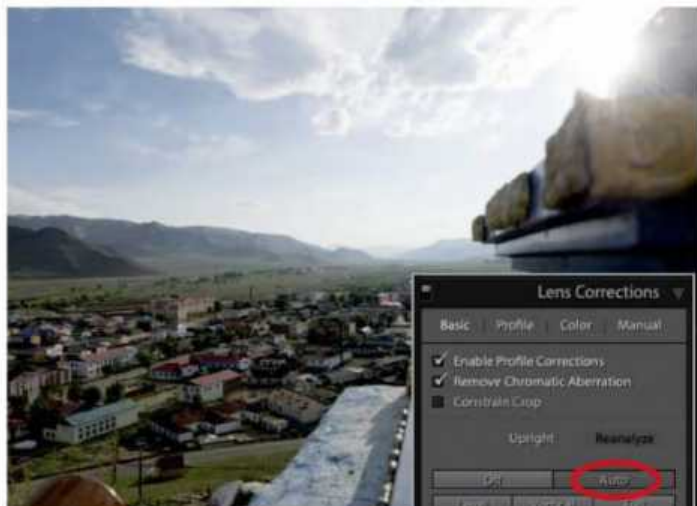
1 Import your RAW into Lightroom and apply Lens Corrections

To begin with you'll need to import your own RAW file into the Lightroom Library, or use *Mongolian sun.dng* from the Start Images folder. To do this press **Ctrl+Shift+I** to open the Import controls. Navigate to where your file is located, select it by ticking the box in the thumbnail corner, and then click **Import** at the bottom right. Once it's in, click on **Develop** to enter the editing module. Scroll down to the **Lens Corrections** tab, and within the **Basic** panel tick **Enable Profile Corrections** and **Remove Chromatic Aberration**. Below are the perspective controls, click **Auto** for Lightroom to straighten up the image. Then to check that Lightroom has correctly identified the lens used, click on **Profile** and examine the info in the Lens Profile drop-down menu. For the Start Image, a **Nikon AF-S 24-70mm f/2.8G ED** was used.
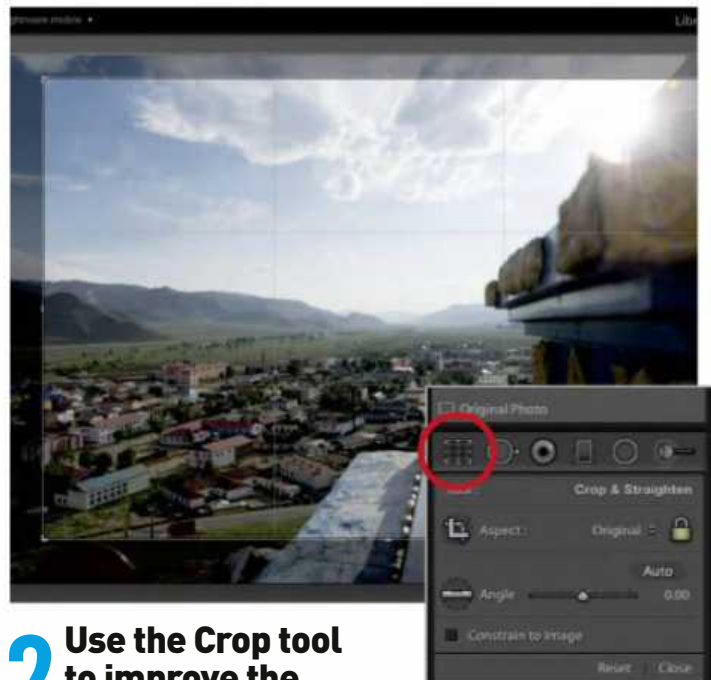
2 Use the Crop tool to improve the composition of the image

Shooting directly into the sun can make it more challenging when framing up, as the extreme contrast can make it difficult to pay close attention to detail. To improve the framing, select the **Crop Overlay tool** from the Toolbar (or press **R** for a shortcut), and drag a crop bounding box over your image. Keep **Aspect** set to **Original** to maintain the same dimensions in the pic. To adjust the size, you can drag any of the control handles on the edges of the bounding box. Dragging inside the Crop Overlay will move it across the image. Once you're satisfied, hit **Done** to confirm the crop and exit the tool.


3 Set the White Balance, tones and contrast of the pic

Scroll up to the **Basic** tab and set **WB** to **Daylight**. Increase **Exposure** to **+0.60** and **Contrast** to **+50**. Set **Highlights** to **-100** and **Shadows** to **+100** to restore detail in these areas. Press **J** to turn on a Highlight and Shadow Clipping Mask. This will show you which areas are losing detail. To adjust the tones, set **Whites** to **+20** and **Blacks** to **-70**. Reduce **Clarity** to **-20**, and push **Vibrance** to **+30** to boost the more muted colours in the shot.
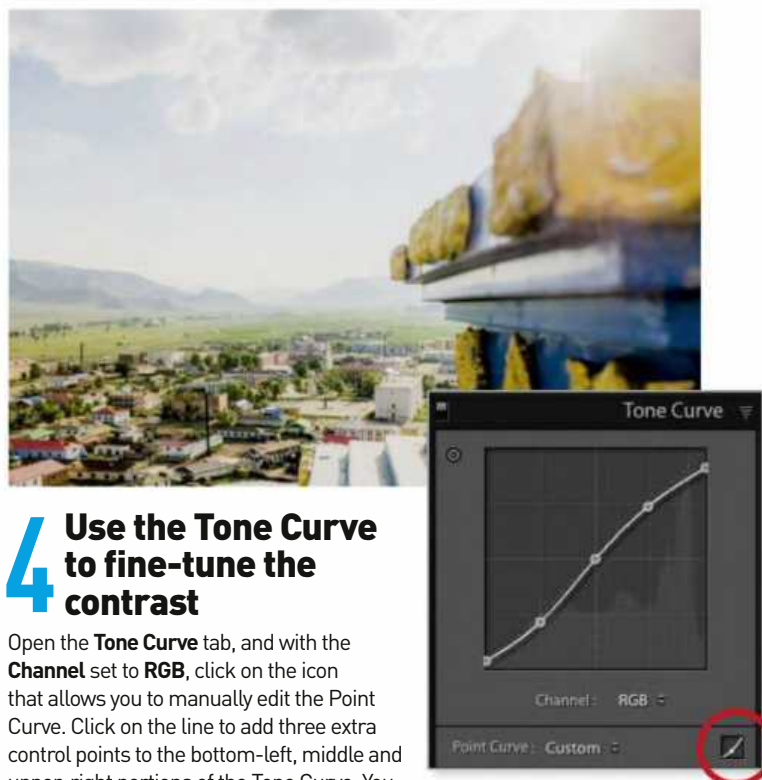
4 Use the Tone Curve to fine-tune the contrast

Open the **Tone Curve** tab, and with the **Channel** set to **RGB**, click on the icon that allows you to manually edit the Point Curve. Click on the line to add three extra control points to the bottom-left, middle and upper-right portions of the Tone Curve. You can now use the fainter gridlines to guide you in your adjustments. Drag the extreme-left corner of the point curve up by one square, and pull the upper right corner down by two, to slightly compress the range of tones. To darken the shadows, drag the first Control Point down one square.
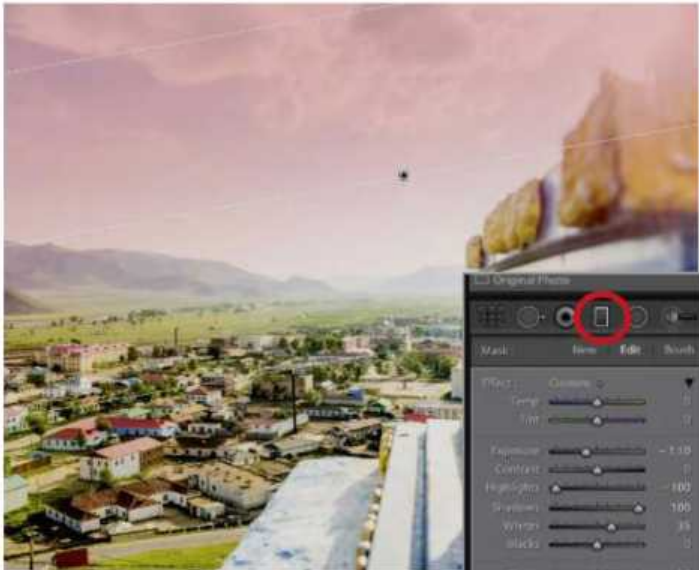
5 Use the Graduated Filter tool to restore sky detail and boost colours

Select the **Graduated Filter tool** from the Toolbar, or press **M** for a shortcut. A new control panel will appear on the right. Set **Exposure** to **-1.10**, **Highlights** to **-100**, **Shadows** to **100** and **Whites** to **35**. Push **Clarity** to **35** and **Saturation** to **95**, before reducing the **Sharpness** by setting it to **-85**. With your Graduated Filter now set up, click and drag across the sky, making sure the three lines are wide apart to create a soft, feathered edge to the effect. Press **O** to view an Overlay Mask of the area affected by the Graduated Filter. Click **Done** to exit the tool.

6 Apply Sharpening and Noise Reduction in the Detail tab

Head down to the **Detail** tab, and use the **Target tool** to select a detail zoom area, to inspect the sharpening process. Under **Sharpening**, push the **Amount** slider to **105**, leave **Radius** and **Detail** in their default positions of **1.0** and **25**, and set **Masking** to **80**. Hold the **Alt** key as you do – it'll give you an edge Mask so you can precisely see which edges are affected by sharpening. Below, under **Noise Reduction**, set **Luminance** to **15** to smooth out some of the grain. There's no need to adjust any of the other Noise Reduction sliders.

7 Remove lens artefacts with the Spot Removal tool

If you examine the sky of the Start Image, you'll notice a few distracting spots of lens flare, which can easily be removed with the **Spot Removal tool**. If you're using your own image you may notice some dark blobs, which are sensor dust marks. These can be removed in the same way. Select the tool from the Toolbar (press **Q** for a shortcut) and set the tool to **Heal**. Adjust the size to be just bigger than the mark to be removed (we set **Size** to **78**). Push **Feather** to **24** and **Opacity** to **100**. Then click with the tool over the unwanted spot, and Lightroom will sample a source area nearby to replace the pixels. If you wish, you can adjust the source area by dragging it to a new position. Repeat this for all spots, then hit **Done** to exit.

8 Export your finished file as a JPEG

Once you've finished making adjustments to your image in Lightroom, you need to export the file to create a new version of it. This is because the original RAW file is left unaltered. To do this, press **Ctrl+Shift+E** on your keyboard. Choose a **Location**, such as the Desktop, for where your new file will be saved. Give it a **Custom Name**, so you can easily find it, and set the **Image Format** to **JPEG**, with **Quality** reduced to **90** to save a bit of disk space. Then simply click **Export** and your new file will be created, ready to use elsewhere.

YOUR PICTURES

Get some friendly, constructive advice from our experts!
We pay for every pic published, so send your best shots
to dpimages@bauermedia.co.uk

Little Islands by John Hutton

What was used Camera Nikon D610 & 24-70mm lens, plus 10-stop ND filter
Exposure 1/100secs @ f/22, ISO 400 **Software** Photoshop CS6

This shot was taken at Loch Winnoch in Scotland. I have always loved images with an ethereal quality and this was the look I was going for. I really like the way the island in the background looks like it is floating. I set up my D3200 on a tripod and took a 25secs exposure using my SRB 10-stop ND filter. The weather was perfect for this type of shot. There was an unbelievably dense fog which limited how far I could see but it ensured the light was very even.

● **Matty says** The ability to pre-visualise a scene as a long exposure or in mono is a much-envied skill and it's clear that John has a good eye for a picture. In the world of landscape photography, photographers can be guilty of searching for too much in a scene, confusing the viewer with multiple focal points. John's minimalist approach is refreshing and he's taken advantage of the atmospheric fog. The long exposure of 25secs has removed any movement from the water and brought a genuine fine-art feel to the image. The mono conversion strips the scene of any colour distractions and this focuses the viewer's attention on the shapes and tones. But for me, I'm not sure the composition is quite right. John has placed the island

centrally on the top horizontal third, which works really well, but the small rock in the foreground is neither centrally placed for a symmetrical feel nor on a one-third line. As a result it looks a little lost in the frame. To change this, I'd be tempted to move it into a

"THE LONG EXPOSURE HAS BROUGHT A GENUINE FINE ART FEEL TO THE IMAGE"

Before

central position and enlarge it. Using the **Lasso tool** you can select the rock and a good amount of surrounding water. To soften the edge of the Selection, the **Feather** slider in **Refine Edge** can be increased, and it can then be placed in a new Layer with **Ctrl+J**. Using **Free Transform** mode (**Ctrl+T**), you can then reposition it for a more balanced placement. Dragging the corners of the bounding box will enlarge it, enhancing its status in the frame and switching its role to a foreground anchor point for the viewer's eye.

While the mono treatment works well, adding a coloured tint boosts the atmosphere even more. Congratulations John, this is a great shot well worth hanging on the wall.

EXPERT ADVICE Use a Fill Layer to add colour

A fast and easy way to tone an image in a colour of your choice is to use a Fill Layer. By going to **Layer→New Fill Layer→Solid Color**, a dialogue box will appear with a colour palette. Simply pick your desired colour from the palette and then hit **OK**. The picture will be obscured by a solid block of your new colour, so to reveal the image, go to the Layers panel and change the Blending Mode of the coloured Fill Layer from **Normal** to **Soft Light**. If the effect is too heavy for your liking, reduce the **Opacity** until you have the degree of colour toning you require.

After

With a few distracting blemishes on the leaf removed and a light colour tweak, Brandon's fantastic spider gets the viewer's undivided attention.

Spider

by Brandon Chan

What was used

Camera Nikon D800 & Nikkor 105mm f/2.8 VR micro lens
Exposure 1/200sec @ f/22, ISO 100 **Software** Photoshop

I took this using my 105mm macro lens. It was difficult to get a good shot as the spider was constantly moving. I did eventually manage to get this image however, and I love the spider's strong pose. In Photoshop, I enhanced the colours and sharpened the details.

● **Dan says** Brandon should be congratulated on this image. Achieving a pin-sharp macro shot is no easy feat but Brandon's focus is spot on. Depth-of-field is much more shallow for macro, but a small aperture of f/22 has helped to get a great degree of sharpness.

While Brandon's composition is tight, I think it could be improved a little by going back to the original RAW file and opting for a slightly looser framing. Leaving some room to the right gives the subject some 'active space' to move into, and also aligns the spider's eyes with intersecting third lines.

While tweaking the RAW I'd also be tempted to push the **Shadows** slider fairly hard, as the spider is quite dark in the original. This helps bring out the amazing detail that's a big part of the shot. The leaf background gives the pic a natural feel, but a few dark spots distract the eye. These could easily be removed in Photoshop or Elements using the **Spot Healing Brush**. Just hover your cursor over the dark spot, then resize your brush with the [and] keys so it's a little larger than

> **"ACHIEVING PIN-SHARP MACRO SHOTS IS NO EASY FEAT, BUT BRANDON'S FOCUS IS SPOT ON"**

Before

blemish. Then click to watch it disappear.

Because the main colour of the leaf and the spider's markings are yellow, there's very little colour contrast in the image. If you don't mind bending reality a little, you could slightly change the colour of either to increase the separation. To do this, go to the Layers panel, click on the **Adjustment Layer** icon and choose **Hue/Saturation** from the drop-down list. Adjust the **Hue** slider to make the leaf a little more red, then paint over the spider using a soft-edged, black brush to restore the original yellow markings in the spider.

The mysterious hand
by Manish Jaisi

What was used
Camera Canon EOS 600D & 50mm f/1.8 lens
Exposure 1/60sec @ f/4.5, ISO 200 **Software** Photoshop

I saw this amazing gate on a visit to Haus Khas, New Delhi and knew I had to get a shot of it.
I framed up and waited for someone to open the gate to get their hand in shot, but this introduced a little camera-shake. I increased the Contrast and Clarity in Lightroom and converted the pic to mono in Silver Efex Pro.

● **Dan says** What a cracking shot! Manish has captured a great image here, and the crop gives an air of mystery that conjures up all kinds of questions for the viewer. The strong lines of the gate stand out clearly from the ink-black backdrop, and the inclusion of the hand has turned the gate's metalwork into an evocative, artistic photograph.

The vertical orientation shows more of the gate, but I think a square crop would work even better. While using the **Crop tool** I'd also true up the framing as it's a little skewed – this would make sure the gate's bars are completely straight. A tighter crop also makes the hand more dominant in the frame.

The small amount of blur can be pretty much eliminated using the **High Pass filter** in Photoshop (see panel). This also makes the gate's texture really stand out and further increases the shot's impact.

The starkness of the black background makes it a high-contrast image, but the person's arm is just visible, and this could be removed to boost the starkness of the image. As the background is pitch black, it's easy to paint over the arm with the **Brush tool**. Hit **D** for a black foreground colour, then carefully paint over the arm without touching the gate.

I love the textures here, but some of the

"THE SHOT HAS AN AIR OF MYSTERY THAT CONJURES UP ALL KINDS OF QUESTIONS"

Before

gate's jagged edges from rust and flaking paint detract from the strong lines. One solution is to use the **Polygonal Lasso tool** and draw sharp lines over where the gate would have originally been. Then run a black brush over the rusty edges to remove them and restore the bold, sharp pattern.

These are all minor tweaks though, and Manish should be extremely proud of this wonderful shot. Well done!

After
A tighter crop and some sharpening increases the impact of Manish's well-observed shot.

Before

After

Removing the colour from the surrounding environment keeps the attention solely on the jets.

Ready to go
by Paul Richards

What was used
Camera Canon EOS 5D MkII & 300mm lens
Exposure 1/125secs @ f/11, ISO 100

This image was taken at the Fairford air show. I spotted the angle on the lined-up tails and thought it would look great as a print, hung up on the wall. My memory card was filling up fast, so I decided to shoot in JPEG, rather than RAW. I haven't made any changes to the shot in Photoshop.

● **Matty says** As British as Buckingham Palace and Big Ben, The Red Arrows are an icon of our nation and Paul has been lucky to get close enough and find a viewpoint to shoot the whole team. Rather than choosing to shoot a frontal view of the planes, Paul went with an alternative approach, framing up on the tails of the jets. The livery of the fins is fascinating and full of bold colour, and I think Paul could go for a really tight composition that fills the frame, using this element alone. The **Crop tool**, available in both Photoshop and Elements, is great for quickly trying different compositions – just select it from the Toolbox and draw out a new frame before hitting **OK**. If you're not sure, hit **Ctrl+Z** to undo and try again.

Because this image relies so heavily on the planes' paint work, the rather weak colours in the sky tend to distract the eye, rather than complement the shot. A quick way to selectively remove colour is to first duplicate the Layer (**Ctrl+J**), and then desaturate the scene. To do this, click on the Adjustment

> "THE CROP TOOL IS GREAT FOR QUICKLY TRYING OUT DIFFERENT COMPOSITIONS"

Layer icon in the Layers panel, and select **Hue/Saturation** from the list. Now drag the **Saturation** slider all the way to the left. With the whole scene in mono, it's time to reintroduce the colour where you want it. Make sure the foreground colour is set to black (hit **D** then **X**), and select the **Brush tool** (**B**). Set the brush size using the square bracket keys, then paint over the area you want to be in colour – in this case the planes. Carefully brush the colour back over the planes, and if you go over the edge, don't worry. Simply hit **X** to swap the brush colour to white and paint over the error.

With the bold colours of the Red Arrows back in the shot, a final step is to make them pop even more. To do this, go back to your **Hue/Saturation** palette, and increase the **Saturation** slider. Don't push it too far though, or you'll cause the colours to block out and lose detail, and this will spoil the image.

With the tighter crop and the colour pop, this interesting angle on the famous display team will look great framed up on the wall.

EXPERT ADVICE
Help colours pop with Hue/Saturation

Boosting or reducing colours is easy in Photoshop and Elements thanks to the **Hue/Saturation** palette. This can be applied directly to a Layer by hitting **Ctrl+U**, but for more control, it's better to apply it as an Adjustment Layer. With **Hue/Saturation**, you can adjust all the colours globally, or you can change one of six colours by selecting it from the drop-down menu in the **Master** box.

CAPTURE THE PERFECT MOMENT WITH THE
CANON EOS 7D MARK II

Find out more about the Skijoring adventure at www.canon.co.uk

When you can't afford to miss, trust in Canon's 10-frames-per-second DSLR

Imagine a camera that beats all rivals for speed and accuracy. Imagine being able to capture the moments you've dreamed of photographing at 10 frames per second and the frame covered by a comprehensive 65-point (all cross-type) autofocus system.

Imagine being able to keep shooting when the heavens open and in the full splendour of hefty 20.2MP resolution. Now imagine all this professional quality spec is available to you for the cost of an entry-level DSLR.

Well imagine no more, because the reality is here and it's all possible with the Canon EOS 7D Mark II, which won the coveted *Best Expert DSLR* category at the 2015 TIPA Awards.

With important photo moments, there are no re-runs and this means you simply can't take chances with your selection of camera. The Canon EOS 7D Mark II puts cutting-edge technology in your hands and allows you to step into the professional arena where speed and accuracy are key – all without breaking the bank.

No other APS-C DSLR can match the 7D Mark II for speed, enabling you to capture split-second action at 10 frames per second without a drop in resolution from the 20.2MP CMOS sensor. The focus coverage also sets a new benchmark amongst its rivals, with a 65-point (all cross-type) AF system capturing the action in every part of the frame.

Powering the 7D Mark II are Dual DIGIC 6 processors, which enable images to be recorded to the dual memory cards (one CF, one SD), and for the sensor to cope with a vast native ISO range of 100-16,000.

The class-leading features aren't limited to still images either, as the 7D Mark II is packed with pro-standard movie features, including 60p Full HD capture, external mic and headphone jacks and Dual Pixel CMOS AF technology to help keep your subject in sharp focus.

And while most cameras need to be packed away at the first sight of a shower, the 7D Mark II's magnesium-alloy, weather-sealed body is bettered only by Canon's flagship EOS 1D X. By taking on the worst of the UK weather, you can shoot for longer, maximising the chances of capturing the perfect moment.

What's more, purchase before 13th January 2016 and you can get up to £250 cashback when purchased with a BG-E16 battery grip so you'll never run out of power while lining up the perfect shot. With the 1.6x crop getting you closer to the action and compatibility with Canon's full range of EF/EF-S lenses, the 7D Mark II is the DSLR to trust with the moments that matter.

"WITH IMPORTANT MOMENTS THERE ARE NO RE-RUNS, SO DON'T TAKE CHANCES WITH YOUR KIT"

"NO OTHER APS-C DSLR CAN MATCH THE 7D MARK II FOR SPEED OR FOCUS COVERAGE"

RICHARD WALCH, CANON AMBASSADOR

Quickspec

Resolution 20.2MP
Sensor APS-C CMOS
Lens mount EF/EF-S
AF points 65 (all cross-type)
Burst rate 10 frames per second
ISO range 100-16,000 (expandable to 51,200)
Built-in flash Yes
Video Full HD (1080p) at frames rates up to 60fps

WINNER OF THE TIPA AWARDS
BEST DIGITAL SLR EXPERT

PHOTO ANSWERS

Your problems solved by our expert team

If you'd like to benefit from our expert advice email your query to dp@bauermedia.co.uk and put PhotoAnswers in the subject box

YOUR PHOTO EXPERTS

JON ADAMS For shooting and Photoshop queries, Jon is on hand to help solve any problems you have.

DAN MOLD With a background in photographic retail, Tech Ed Dan can advise on all aspects of camera kit.

MATTY GRAHAM Assistant Editor Matty is never seen without his DSLR, and is brimming with shooting tips.

ANDY HEATHER Andy worked as a commercial photographer in Japan, and is overflowing with advice.

DAN MOLD

KNOW HOW
Why does my viewfinder look blurry?

Q I'm new to photography and am not confident with all the settings on my Canon 100D, so I've been mainly using Auto mode. It's probably an obvious question, but the background often looks nicely blurred through the viewfinder, yet when I take a shot, the pic seems much sharper. Am I just imagining things, or does the viewfinder not give an accurate view?
Barry Wood

● **Dan says** There are a couple of factors that can affect the viewfinder image. The first thing to check is that your viewfinder is correctly adjusted. All DSLRs have a dioptre which lets you focus the viewfinder to suit your eyesight. You'll then know exactly where your focus point is when you're framing up.

But a well-adjusted dioptre doesn't mean your depth-of-field (the zone of sharp focus) will be accurate. You may well have a sharp subject and a blurred background through the 'finder, but the captured shot can reveal a much sharper background. This depth-of-field is governed by the aperture value that's set.

The aperture is an adjustable diaphragm in the lens that opens and closes to control the amount of light that's let through. But how it's set also affects the depth-of-field. A small aperture (a high f/number like f/22) gives increased sharpness from front to back, while a large aperture (a low f/number like f/4) results in a more limited band of sharp focus.

The aperture is always at its largest when looking through the 'finder, as this gives the brightest view. But when the pic is taken, it closes down to whatever value has been set. Your Auto mode will be biased towards a medium aperture, so will give you a sharper background than the 'finder suggests.

Follow our tips to focus your 'finder, set the aperture and visualise your depth-of-field...

A How to set up your 'finder and preview depth-of-field

1 Tune the viewfinder's focus to match your eyesight

Everyone's eyes are different, so DSLRs come with a dioptre built in to the viewfinder. This allows you to adjust it to suit near-sighted or long-sighted vision. Dioptres differ from camera to camera, but will usually be found next to the viewfinder window in the form of a dial or lever. On some models, you may need to remove the eyepiece cover to access the dioptre properly. Some dioptre wheels need to be popped out like the crown of a watch before they can be turned.

To sharpen up the viewfinder image, place your camera on a tripod and frame up on a static subject quite close to the camera. Half press the shutter to engage the autofocus so it locks on to the subject. With your focus sharp, adjust the dioptre dial or lever to and fro until the subject becomes pin sharp and crystal clear in the viewfinder. You've now set up your dioptre to match your eyesight. It may not suit other people though, so be prepared to do this again if someone borrows your camera.

2 Switch to Aperture priority to change your depth-of-field

When you look through the viewfinder, the aperture is opened up to its maximum to give you the brightest view. This makes it easier to see your scene when composing, and also helps your AF system work efficiently. But the large aperture also means your depth-of-field will be at its most shallow, so backgrounds will appear very blurry.

To take control of the depth-of-field, avoid Auto mode and switch over to Aperture priority (Av or A) on the mode dial. This mode lets you set your own aperture value rather than letting the camera figure this out for you. Unlike the Auto mode which determines every exposure parameter, Aperture priority is a semi-automatic mode – you choose the aperture, and the camera will work out the shutter speed to ensure a well exposed image. To get the shallow depth-of-field effect you see through the viewfinder, set your aperture to its widest setting. That's f/3.5 at 18mm or f/5.6 at 55mm when using an 18-55mm kit lens. You're now set up to shoot exactly as the scene appears in the viewfinder, so using your largest aperture is the WYSIWYG (what-you-see-is-what-you-get) setting.

3 Use the depth-of-field preview button with smaller apertures

For the times when you want a greater amount of sharpness through the scene, you'll need to dial in a smaller aperture (a higher f/number like f/11 or f/16). The scene in the viewfinder won't change to reflect this adjustment, but many DSLRs have a dedicated button which allows you to see how the shot will look. This depth-of-field preview button is usually located around the lens mount. The button is often unlabelled, so check your camera manual to see if your DSLR has one. Some models have a Function button which can be assigned as a depth-of-field preview button within the Custom functions in the menus.

With a small aperture set and the depth-of-field button depressed, you'll see the depth of sharpness in the shot. The aperture will close down and the viewfinder will become much darker. At small aperture values like f/16 or f/22, this can make the scene so dark it's tricky to even see, so many photographers prefer to take a test shot and assess the results on the LCD screen. This is also the best option if your camera doesn't possess a depth-of-field preview button.

PHOTOSHOP

Q Why does my cloning work look unnatural?

I'm trying to remove a few blemishes around my subject's chin in Photoshop CS6 but I can't seem to get it right. I've been using the Clone Stamp tool to fix it (I ensured that my foreground colour is set to black), but the results look very patchy and unnatural. Can you help me?
Femi Ayinde

● **Jon says** With regard to the Clone Stamp tool, I think there's a little confusion – this tool lets you borrow 'good' pixels from an area of your image and paint over the 'bad' pixels to remove them, so the foreground colour has no impact on the way the tool operates.

Most of the time you can get good results easily with the Spot Healing Brush tool – just click over the area you'd like to remove and Photoshop does all the hard work to figure out which 'good' pixels to use. The Clone Stamp tool is a little more involved but it lets you choose the exact area you want to borrow the pixels from. I suspect the source point of your Clone Stamp tool was set to a much brighter area of the model's face and that's why the Cloning looks a little unnatural. Both of these tools are essential to image retouching, so here's all you need to know to use them…

Femi's version

If the Clone tool's source point is set to a lighter or darker area than the part you want to repair, it won't look natural.

DP's version

With the source point set to a tone and texture similar to the area that's to be fixed, the result will be seamless.

Why are my pics blurry?

Q I heard you that you need to shoot at a shutter speed equal to or faster than your focal length to get a sharp shot. I got blurry pics with my Nikon 1 J4 and 70-300mm at 1/300sec, so am I doing something wrong?
James Gordon

● **Andy says** This rule is based on 35mm film DSLRs so only properly works with full-frame digital cameras. Your 1 J4 has a smaller chip and you need to apply its 2.7x crop factor to get the film equivalent focal length of 189-810mm. This means a shutter speed of 1/800 will be needed for sharp handheld shots at the long end of the zoom.

How-to Clean up blemishes on portraits in Photoshop
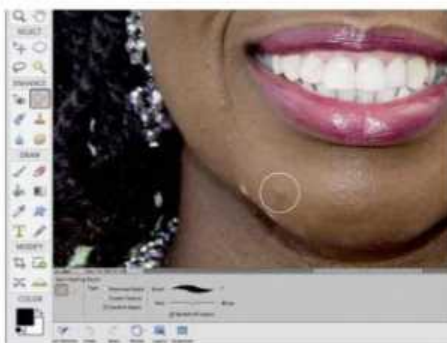
1 Try the Spot Healing Brush for an easy fix

For most blemishes you'll be able use the **Spot Healing Brush tool**. This makes it easy to fix problem areas. Select it from the Toolbox, then move your cursor over the blemish and use the [and] keys on the keyboard until the cursor is a little bigger than the blemish. Now click and Photoshop will replace the area with what it thinks is the best match. It doesn't always get it right – especially on high contrast areas – so if this is the case hit **Ctrl+Z** to undo and try Step 2.
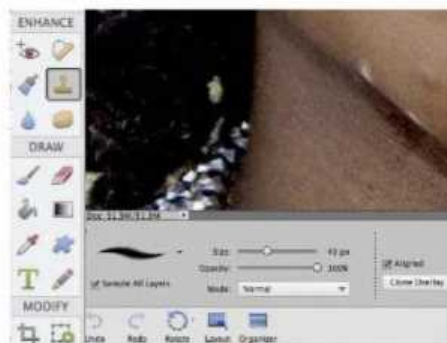
2 Set up the Clone Stamp tool for complex edits

If the edit is too tricky for the Spot Healing Brush, you can use the **Clone Stamp tool** to set the exact area you want to borrow the pixels from. Select the **Clone Stamp tool** – it shares the same space with the Pattern Stamp tool so make sure you have the right one. In the Tool Options bar, set **Mode** to **Normal**, **Opacity** to **100%**, **Flow** to **100%**, tick the **Aligned** box and set **Sample** to **All Layers**. Now create a new Layer, as it's best not to clone over your original.
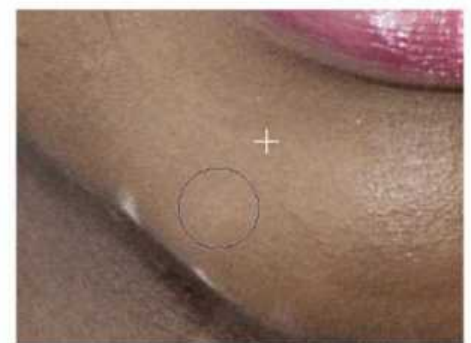
3 Set a source point and brush over the area

Hover your cursor over the area you'd like to repair and resize with the [and] keys until the it's a little larger than the blemish. Now hold **Alt** and you'll see the cursor change to a crosshair. Move the crosshair to a 'clean' area of the image you'd like to sample, and click to set the source point. Now release **Alt**, and paint the sampled pixels over the blemish. With the cloning work on a separate Layer, you can switch its 'eye' icon on and off to see the difference.

KNOW HOW
What does my AF-ON button do?

Q I've recently upgraded from a Nikon D7000 to a full-frame D810 DSLR and it has an AF-ON button on the back. This isn't something my D7000 had. I can guess that it turns the AF on or off, but the AF seems to hunt when I press it. Can you explain what it's for?
Thom Dixon

● **Dan says** The purpose of an AF-ON button is to engage the autofocus, just like half-pressing the shutter, so this explains why the focus hunts. The common method is to half press the shutter to autofocus and then depress it all the way to take the shot. But if you half-press the shutter to focus and take your finger off the shutter button, pressing the shutter again to take the shot will engage the AF and refocus before firing. You could keep the shutter half-pressed until the moment you want to capture occurs, but this isn't always ideal.

AF-ON is a great way of separating the AF system from the shutter button so the two work independently. But you'll need to go into your D810's menus to set this up (see below).

With the AF mode set to Continuous AF you can hold the AF-ON button down to keep focusing or press it once for Single AF – this makes it much faster to switch between AF modes. If the attached lens also has an AF/MF mode you'll have fast access to Manual Focus too. Using this, you can avoid the AF-ON button and rotate the focusing ring until your subject is sharp. Then just fire the shutter to take the pic.

Also known as back-button focusing, AF-ON can take a while to get used to, but the benefits are vast. Here's all you need to know...

Some cameras let you allocate autofocus to a specific AF-ON button...
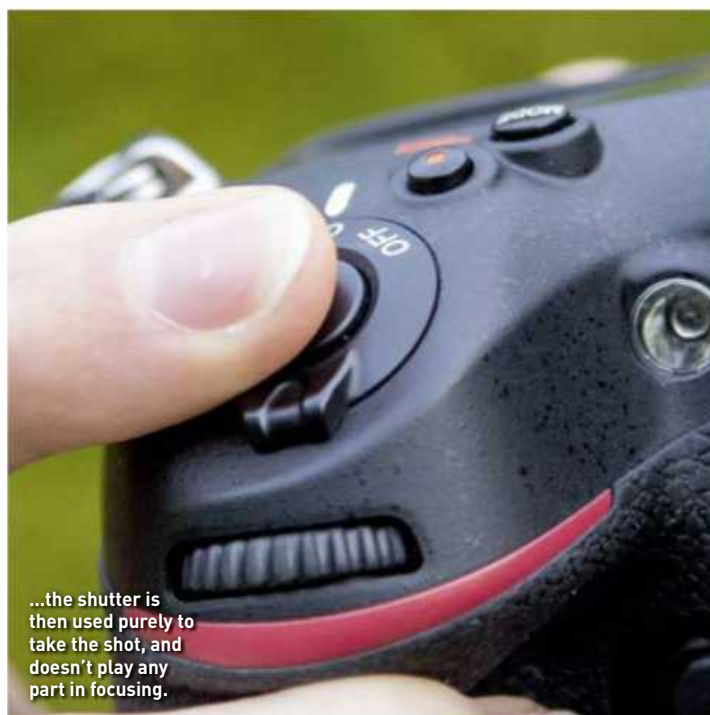
...the shutter is then used purely to take the shot, and doesn't play any part in focusing.

Expert advice Set up your Nikon's AF-ON button

1 Activate your AF-ON
On your Nikon D810 go into **Custom Settings→Autofocus→AF Activation** and change it from **Shutter/AF-ON** to **AF-ON only**. This tells the **AF-ON** button to operate the AF.

2 Use the AF mode button
You'll find the Focus Mode lever underneath the lens release lock. The AF-mode button is built in to the Focus Mode lever and you need to press this in.

3 Choose Continuous AF
Now you can switch AF modes with the rear command dial, so set it to **C** for Continuous AF, then use the front command dial to set the AF area to Single Point AF (**S**).

BUYING ADVICE
Am I chained to my camera's mount?

Q I've found that after investing in a DSLR and a couple of good lenses it becomes very hard to switch over to another brand if you like the look of a new model. It's often too costly to cash in the lenses and buy new ones for the new mount, so is there a better way?
Paul Grant

● **Matty says** There's a handful of third-party adapters that will let you mount lenses of one brand onto another, but most mean the lens has to be used completely manually – so you'll need to set the exposure in Manual mode and focus manually too. If you've kept your lenses in reasonable condition you should be able to get a decent price for them – lenses tend to keep their value quite well.

Lens manufacturer Sigma has also recently launched a Mount

Sigma's Mount Conversion service lets you swap your lens mount if you fancy a camera of a different brand.

Conversion Service to change the mount of Sigma's new Art, Sport and Contemporary optics, as long as it's a mount they already make for that lens. Sadly, older Sigma lenses can't be converted. Prices range between £170 and £280 including return P&P, and there's a turnaround time of 3-4 weeks.

If you have pro lenses, this could be a more cost-effective way to convert them from one mount to another. But ultimately, switching brands is a costly procedure that most snappers avoid. To make use of the service, download the application form at *www.sigma-imaging-uk.com/mount-conversion-service*

COMPUTING
Does my laptop have USB 3.0 ports?

Q I recently bought a 2TB external hard drive to back up my photos. It's USB 3.0, but I can't figure out if my laptop has this faster port. How can I find out? It's taking ages to transfer all my pics!
Tim Mills

● **Dan says** USB 3.0 ports allows data to be transferred at up to 5GB/s, so they're much faster than the maximum 480MB/s that USB 2.0 offers. Most USB 3.0 ports on a PC are bright blue and usually have SS written next to them denoting they are 'SuperSpeed'. This is the easiest way to identify them, but there are rare occasions when the port isn't blue or labelled at all.

To find out on a PC, go to your search bar and type in **Device Manager**, then scroll down until you see **Universal Serial Bus Controllers** and give it a click. Any ports with **USB 3.0** in the name are the faster spec. To find out exactly which ports are which, insert a USB drive into each, one at a time. Now double-click on the flash drive to bring up its location, if it matches up with the USB 3.0 host then you've found a USB 3.0 port.

Apple Mac computers don't have a mixture of ports, they'll either all be USB 2.0, or all USB 3.0 if it's a newer model. To find out if a Mac has USB 3.0 ports, it's easiest to check the specification of your model on *www.apple.com/uk*. Alternatively you can hold the **Option** key and press the **Apple icon** at the top-left of the screen. Choose **System Information** or **System Profiler**, and in the menu that appears click on **USB** from the list on the left. USB 3.0 or USB 2.0 will be written next to all of your ports.

Most USB 3.0 ports are bright blue to show that they're capable of higher transfer speeds, so check them before inserting a USB 3.0 device.

If your USB ports aren't colour-coded or labelled you can go into your system preferences to find out if your machine has the higher speed port.

Am I going bananas?

Q I was shooting with a friend the other day and after munching through my banana breakfast, I was about to throw the skin into the hedgerow when he stopped me. I've never really considered banana skins as 'litter' as they biodegrade. I'd never leave genuine litter behind, so what's the *Digital Photo* team's view?
Dan Smith

● **Jon says** As far as we're concerned, no photographer should leave any trace after a shoot, so we'd side with your friend. Although banana skins will mulch down as they're consumed by bacteria, this process takes at least two years, so leaves a blight on the landscape. Carry a freezer bag with you and put your litter in it, then you can dispose of it at home.

Learn more in Practical Photography

The January 2016 issue of Practical Photography is quite literally out of this world! Watch the team attempt to capture breathtaking images of Earth from space on the free CD, get 20% off a stunning WhiteWall HD Metal Print, find the perfect Christmas present with our festive gift guide, find out why the world's best landscape photographer loves winter, and much more. On sale now!

GET YOURSELF CONNECTED

Canon's CS100 Connect Station makes it easy to store, enjoy and share your images and videos from one brilliant device...

One tap is all it takes to transfer images and video wirelessly from Canon NFC cameras and camcorders.

Copying your pictures and video clips to your computer's hard drive, and then deciding how you want to view them or share them with friends can involve a number of time-consuming processes. From transferring content from memory cards to deciding how you want to output your images and video, lots of separate tasks have to be undertaken before you can sit back and enjoy the images you've created.

And then, more decisions have to be made. Do you want to make high quality prints, enjoy your shots and movies on your TV screen, share them via social media or simply store them for posterity?

Canon's ground-breaking Connect Station

"CANON'S CONNECT STATION CS100 MAKES SAVING, VIEWING AND SHARING PRECIOUS MOMENTS QUICK AND EASY"
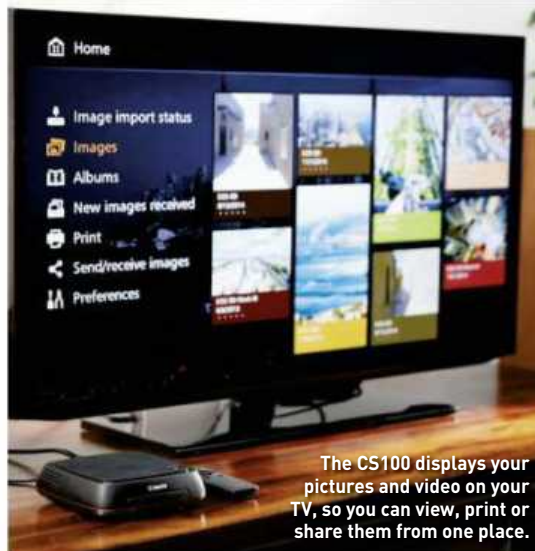
CS100 brings all your choices within reach, and smooths out your options to make saving, viewing and sharing your precious moments as easy as possible.

With one tap of your NFC-enabled Canon camera or camcorder, you can transfer images and movies wirelessly to store them on the CS100's integral 1TB hard drive. For non-NFC devices, you can do the same using the CS100's built-in SD and CF card readers, or you can transfer images and video over Wi-Fi from your smartphone or tablet.

With your images and videos safely transferred and stored in one place, you can then view them on your HD TV, and even print them via the intuitive screen display to a PictBridge wireless printer. Thanks to the

The CS100 displays your pictures and video on your TV, so you can view, print or share them from one place.

Connect Station CS100's wireless capabilities, you can also upload them to social media sites to share with your friends, send them to the Cloud to allow access on all your devices, or even copy them to another Canon Connect Station to back up your files.

Get a free Canon HD Book worth £59.99

Nothing shows off your shots like a professionally-printed photo book of your best images. And if you buy your Connect Station CS100 before January 31, 2016, you can claim a free A4-size, 24-page HD Book at *www.canon.co.uk/promotions/connect-station-cs100*

To find out more about how the Canon CS100 Connect Station will make your photo and video life so much easier to enjoy, visit w*ww.canon.co.uk* and type *CS100* into the search box.

"THE CS100 IS SO VERSATILE, YOU'LL SOON WONDER HOW YOU COPED WITHOUT IT!"

Canon

Canon

Canon EOS 7D Mk II
20.2 megapixels | 10.0 fps | 1080p movie mode
7D Mk II £1299
7D Mark II Body £1299

Canon EOS 5D Mark III
22.3 megapixels | 6.0 fps | Full Frame Sensor
5D Mk III £2249
5D Mk III Body £2249

Canon EOS 5DS NEW
50.6 megapixels | 5.0 fps | Full Frame Sensor
NEW 5DS From £2999
5DS Body £2999
5DS R Body £3199
Lens when bought with Cashback** offer ends 31.1.16
up to £250 CASHBACK when bought with selected lenses**

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760D Body £649
£599 Inc. £50 Cashback*
750D Body £486
£436 Inc. £50 Cashback*

Canon EOS 700D
18.0 megapixels | 5.0 fps
£50 CASHBACK*
700D From £391
700D Body £391
£341 Inc. £50 Cashback*
700D + 18-55mm IS STM £459
£409 Inc. £50 Cashback*

Canon EOS 6D
20.2 megapixels | 4.5 fps | Full Frame Sensor
£100 CASHBACK*
6D From £1132
6D Body £1132
£1032 Inc. £100 Cashback*

Canon EOS 70D
20.1 megapixels | 7.0 fps
£60 CASHBACK*
70D From £728
70D Body £728
£668 Inc. £60 Cashback*

Canon EOS 1D X
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1D X £4399
1D X Body £4399

Canon G7 X
20.2 megapixels | 4.2x optical zoom
£25 CASHBACK*
G7 X £379
G7 X Compact £379
£354 Inc. £25 Cashback*

Nikon

Nikon D3300 Black, Red or Grey — YEAR WARRANTY
24.2 megapixels | 5.0 fps
£20 CASHBACK*
D3300 From £293
D3300 Body £293
£273 Inc. £20 Cashback*
D3300 +18-55mm VR II £329
£328 Inc. £20 Cashback*

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D7100 From £619
D7100 Body £619
D7100 +18-105mm VR £799

Nikon D7200
24.2 megapixels | 6.0 fps | 1080p movie mode
D7200 From £779
D7200 Body £779
D7200 + 18-105mm £929

Nikon D610
24.3 megapixels | 6.0 fps | 1080p movie mode
D610 From £1079
D610 Body £1079
D610 + 24-85mm £1599

Nikon D750 — YEAR WARRANTY
24.3 megapixels | 6.5 fps | Full Frame Sensor
D750 From £1499
D750 Body £1499
D750 + 24-85mm VR £1759
D750 + 24-120mm VR £1999

Nikon D810 — YEAR WARRANTY
36.3 megapixels | 7.0 fps | Full Frame Sensor
D810 From £2399
D810 Body £2399
D810A Body £2899

Nikon D4s
16.3 megapixels | 11.0 fps | Full Frame Sensor
D4s £4449
D4s Body £4449

Nikon Df
16.2 megapixels | 5.5 fps | Full Frame Sensor
Df From £1899
Df Body £1899
Df + 50mm £1999

Canon winter Cashback* offer ends 13.1.16

Nikon winter Cashback* offer ends 13.1.16

Canon Lenses

NEW 35mm f1.4 L II USM	£1799
EF 16-35mm f2.8L Mk II USM	£1064
EF 70-300mm f4-5.6L IS USM	£894
£784 Inc. £110 Cashback*	
EF 24mm f1.4L II USM	£1179
EF 50mm f1.4 USM	£237
EF 100mm f2.8 L IS USM Macro	£619.50
EF-S 10-22mm f3.5-4.5 USM	£377
£332 Inc. £45 Cashback*	
EF 16-35mm f4 L IS USM	£682
£607 Inc. £75 Cashback*	
EF 11-24mm f4L USM	£2799
EF-S 17-55mm f2.8 IS USM	£519
£474 Inc. £45 Cashback*	
EF 24-70mm f4.0 L IS USM	£675
£525 Inc. £150 Cashback*	
EF-S 55-250mm f4-5.6 IS STM	£200
£180 Inc. £20 Cashback*	
EF 70-200mm f4.0 L IS USM	£797
£722 Inc. £75 Cashback*	
EF 100-400mm f4.5-5.6 L IS II USM	£1849
EF 70-200mm f2.8 L IS II USM	£945
EF 24-105mm f4.0 L IS USM	£638

Nikon Lenses

85mm f1.8 G AF-S	£339
105mm f2.8 G AF-S VR IF ED Micro	£619
10-24mm f3.5-4.5 G AF-S DX	£639
18-200mm f3.5-5.6 G ED AF-S DX VR II	£549
18-300mm f3.5-5.6 AF-S ED VR	£669
24-70mm f2.8 G AF-S ED	£1199
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DIGITAL PHOTO

Expert verdicts you can trust on the latest cameras & kit

Gear

Why you can trust our reviews & verdicts

Technical editor Dan Mold oversees rigorous tests in the field and the studio, and after years advising on gear and technique in photographic retail he has an unrivalled eye for what photographers want. All reviews are thorough, unbiased and objective.

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114 Group test – five compact system cameras under £400

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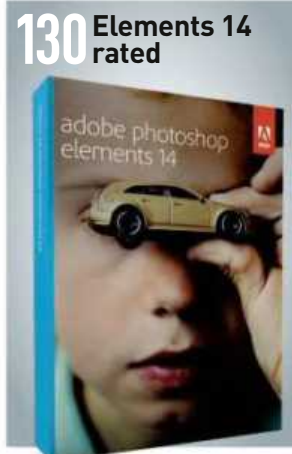
113 Sigma debuts 20mm f/1.4

113 Tenba's Velcro makes no noise!

Sony's A68 DSLT features a high-resolution OLED electronic viewfinder and uses fast, phase detection AF, even when shooting movies.

The RX1R II has a pop-up EVF and a huge 42.4Mp full-frame sensor.

CAMERAS
New models from Sony

After updating its full-frame range of Alpha 7 compact system cameras, Sony has turned its attention to other camera sectors, releasing a prestige compact and an entry-level DSLT.

Like all of Sony's DSLT cameras, the A68 doesn't feature an optical viewfinder. Instead, composing is achieved via the 1400k-dot OLED electronic viewfinder or the 2.7in tilting 460k-dot LCD. The benefit of this is that the slick phase-detection AF can be used in Live View or when recording movies. The new model has a 4D Focus module and

79 AF points – 64 more than its predecessor. Of these,15 are the super-fast cross-type points.

The RX1R II is an update to Sony's two-year old prestige compact. It boasts a large, full-frame sensor and a fixed Zeiss Sonnar T* lens with the same 35mm focal length and bright f/2 aperture as the RX1R I.

The biggest change with the new model is the sensor. Its resolution is 75% greater, with a gargantuan 42.4Mp to play with. It's also the world's first sensor to take on a variable Optical Low-Pass Filter.

This can be switched off for extra

clarity or engaged to 'standard' or 'high' modes to reduce moiré patterns in areas of high detail if you encounter them while shooting.

Its Hybrid AF system has 399 phase-detection points and focusing speed is said to be 30% faster than its predecessor. A retractable 2400k-dot OLED Electronic Viewfinder is also featured and this can be popped up if required.

Both are available to buy now. The Sony A68 is priced at £440 body-only or £520 with the 18-55mm kit lens, while the RX1R II costs £2599.
www.sony.co.uk

Users can tilt the LCD display of the A68 when composing.

The RX1R II has a 42.4Mp sensor and 399 phase-detection points.

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70-300mm f/4-5.6L IS USM	£110	D5500 & SB-700 flash	£70	FZ330	£30

ACCESSORIES
Manfrotto and Lastolite team up

L astolite and Manfrotto are well-established photo accessory brands owned by the Vitec Group, but they've always been separate entities. That's about to change, as a new Ezybox Speed-Lite 2 softbox and three Perspective Collapsible Backgrounds are to exist under a new brand called 'Lastolite By Manfrotto'.

Manfrotto has also announced its latest BeFree One travel tripod, though this stays firmly under the Manfrotto brand. It's the smallest BeFree on the market, collapsing down to 32cm when not in use, but can reach a maximum height of 130cm.

The Ezybox Speed-Lite 2 softbox has an RRP of £49.99, the Perspective Collapsible Backgrounds come in Stone Steps/Winter Trees, Stone Archway/Grecian Steps and Evening Street/ Ivy Archway variations and cost £169.99 each. Manfrotto's BeFree One travel tripod has an RRP of £124.95. All are available to buy now. **www.lastolite.co.uk and www.manfrotto.co.uk**

The latest accessories from Vitec Group include a softbox and travel tripod.

The new Perspective Collapsible Backgrounds have an RRP of £169.99.

DSLR LENS
Sigma debut new fast, wide prime

It would seem lens manufacturing giant Sigma has been eyeing gaps in the wide-angle market. Its latest 20mm f/1.4 DG HSM A is the third fast wide-angle launched by the firm this year alone. But this is the fastest and widest optic yet, with a 20mm focal length and a fast f/1.4 aperture.

The 20mm will sit alongside Sigma's 24mm f/1.4, 35mm f/1.4 and 24-35mm f/2 lenses, and is the heaviest of the four, weighing just shy of a kilo. With dimensions of 90.7x129.8mm, it'll take up the most space in your camera bag too. Its large, rugged build houses 15 elements in 11 groups, and includes a large 59mm double aspherical element. Distortion, chromatic aberration and flare are said to have been minimised and Sigma claims top results even when the rounded nine-blade aperture is fully opened to f/1.4. It's set to rival Nikon's Nikkor 20mm f/1.8, which tips the scales at 355g and Canon's 20mm f/2.8, which weighs in at 405g.

The Sigma 20mm f/1.4 DG HSM Art is available to purchase now for Canon EF, Nikon F and Sigma mounts and has a launch price of £849.99.
www.sigma-imaging-uk.com

CSC LENS
Fujifilm expands X-mount lens range

Fujifilm's latest XF35mm f/2 lens boasts eight weather seals to keep out dust and moisture. Its focusing is internal so the lens barrel remains the same length when searching for your subject. Fuji claims a subject acquisition time of 0.08sec. Two ED (Extra-low Dispersion) elements and a Nano-GI coating have also been implemented to tame aberrations and flare.

In other news, Fuji unveiled its XF1.4 TC WR – a 1.4x teleconverter for selected X-mount telephoto optics. Currently, the only compatible lens is the XF50-140mm f/2.8 R LM OIS WR, converting it to 70-200mm f/4. The XF100-400mm is yet to be released but will be compatible when it hits the shelves.

The XF35mm f/2 lens has an RRP of £299 while the XF1.4 TC WR is £329. Both are available to buy now.
www.fujifilm.com

SMALL SIZE, SMALL PRICE

CSCs boast DSLR features in a portable package, and we assess five sub-£400 models to see which is the best buy

TEST BY DAN MOLD

FUJIFILM
X-A2 & 16-50MM
OIS II £349

CANON EOS
M10 & 15-45MM
IS STM £399

Compact system cameras pack DSLR features into a much more portable body. If you're upgrading from a compact or bridge camera, the small size of a CSC will feel familiar, yet it will offer plenty of extra functionality. And if you currently own a DSLR, a CSC is a fantastic second camera – you can take it with you when you want to travel light, or keep it alongside your DSLR as a backup.

Although they're small, great image quality can be found in CSCs. Some boast a DSLR-sized APS-C sensor, and all have an interchangeable lens system so you can switch your optics to suit the specific subject matter at hand. In a sense, CSCs are DSLRs without an optical viewfinder, and with this

element left out of the equation, the dimensions become much more pocketable. The picture perfect opportunity could strike at any moment, and it's easier to carry a small CSC around than a bigger, bulkier DSLR.

The rear LCD screen is the standard way to compose shots on entry-level CSCs, and so their displays are more advanced than those found on DSLRs at the same price-point. The LCDs can be tilted to help you frame up at awkward shooting angles and some displays even have touchscreen functionality so you can tap to focus or change settings. This speeds up shooting dramatically.

Because CSCs have no optical viewfinder, there's no mirror to flip up before taking a pic. This allows CSCs to have faster burst rates.

The quickest in this test is Nikon's 1 J5 which shoots at 60fps – over 10x faster than an entry-level DSLR.

Sound like a CSC is for you? We've rounded up five of the best kits under £400 to find out which offers the best overall value.

How we did the test

The CSCs were put through their paces both in the lab and outdoors in real-world situations. We used lens test charts to assess sharpness throughout the aperture range at both ends of the zoom. Ease-of-use and operation was looked at to rate the build, and features were compared. We then assessed the pros and cons of each camera before weighing it all up to decide on a winner.

OLYMPUS
E-PL7 & 14-42MM II R £399

NIKON **1 J5 & 10-30MM VR PD ZOOM** £299

PANASONIC **GF7 & 12-32MM ASPH MEGA OIS** £341

WHAT TO LOOK FOR

Build
Unlike a DSLR, CSCs don't have a pentaprism or optical viewfinder, but still have an interchangeable lens system, so they can offer a more portable alternative to a DSLR.

Sensor
CSCs can have DSLR-sized sensors so their image quality should be impressive. The sensors we looked at range in size from CX, which has a 2.7x crop factor to APS-C with a 1.5x sensor crop.

Monitor
CSC monitors often outperform those found on entry-level DSLRs. The CSCs on test all have the ability to be tilted, and many boast touchscreen functionality so can be operated much like a smartphone or tablet.

Wi-Fi & NFC
All of the CSCs on test offer wireless functionality. This allows them to be paired to a smart device for remote shooting or transferring images. Some models also have NFC (Near-field Communication) for fast tethering to your device.

Gear

CANON
EOS M10 & 15-45MM IS STM LENS £399

Canon's EOS M10 is the most recently-launched CSC on test, and with retailer discounting yet to kick in, it sports a price at the upper end of our scale. Its standout feature is a large 18Mp APS-C CMOS sensor, the same as found in Canon's 100D DSLR. The large chip has been squeezed into a portable shell, with dimensions of 108x66.6x35mm. Fujifilm's X-A2 was the only camera on test to match the large sensor, though took on a bigger, stockier build.

Canon currently has two CSCs, the premium EOS M3 and the entry-level EOS M10. The EOS M10 has a Digic 6 imaging processor, 49 AF points and an ISO range of 100-25,600. Its Hybrid CMOS AF II system is fractionally slower than that of the top-flight EOS M3, but we found the AF performance to be fairly pedestrian. It was outpaced by the blisteringly fast Nikon, Olympus and Panasonic models. Continuous shooting tops out at 4.6fps - again, rather slow by comparison.

The EOS M10 is portable and light, tipping the scales at 439g with lens, battery and memory card accounted for. The new 15-45mm IS STM kit lens boasts a lens lock, which makes it 25% shorter than the original 18-55mm when packed away. One problem with the original 18-55mm was that it was heavy and it unbalanced the camera. The new lens is 38.6% lighter

Canon's new 15-45mm kit lens collapses down to save space when packed away.

> ## "THE BALANCE IS MUCH IMPROVED WITH THE NEW LIGHTER KIT LENS"

so the overall balance is massively improved. The lens has grippy zoom and manual focusing rings and the rear thumb grip gives a little security. But, the front of EOS M10 is predominantly plastic with no protruding grip to aid purchase. This made it quite slippy to hold and a strap comes highly recommend.

On the back of the EOS M10 is the 3in 1040k-dot LCD. It's one of the best monitors on test, boasting touch technology for tap focus or flicking through images. It also has the ability to be tilted up by 180° for low-angle compositions and self-portraits.

The top of the EOS M10 is clutter-free with a pop-up flash, power switch, and Mode dial. The latter sports Scene Intelligent Auto, Still Photo and Movie modes. There's also a shutter button with integrated Command dial and a dedicated movie record button to initiate video recording in Full HD. The EOS M10 was the only camera

The rear 3in screen rotates upward and also has touch functionality letting users tap to focus.

Quickspec
Street price £399 **Sensor** 18Mp APS-C
Mount EF-M AF **System** Hybrid CMOS AF
Burst rate 4.6fps **ISO range** 100-25600 **Monitor** 3in 1040k-dot tiltable touchscreen **Video** Full HD
Storage SD SDHC and SDXC
Dimensions 108x66.6x35mm
Weight (body-only) 264g **Visit** www.canon.co.uk

The top is clean and uncluttered with only the essential buttons and dials.

on test to feature a Mode dial without MASP modes, so shooting was slowed a little as we had to navigate menus to change modes.

The EOS M10 comes with Wi-Fi and NFC for quick pairing to a smart device, and there's a dedicated Wi-Fi button on the side, too.

The EOS M10's write times were admirable with 0.7sec taken to clear a single, large JPEG and a buffer that never filled when shooting continuously. When we switched to RAW shooting, it took 1sec to clear a file and six frames could be taken before the buffer filled. 2.28secs was taken to write these to the card.

DIGITAL PHOTO Verdict

Pros Display tilts & has touchscreen functionality, Wi-Fi & NFC, large APS-C chip

Cons A little slippy to hold, lacks a Mode dial with MASP modes, slow 4.6fps burst rate

FEATURES & BUILD	✪✪✪✪✪
PERFORMANCE	✪✪✪✪✪
IMAGE QUALITY	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪
OVERALL VERDICT	✪✪✪✪✪

X-A2 & XC16-50MM OIS II LENS £349

The X-A2 has a large, DSLR-sized APS-C sensor, though its resolution of 16.3Mp is a little lower than some of its rivals. The sensor has a crop factor of 1.5x so the X-mount XC16-50mm OIS II kit lens has a film equivalent of 24-76mm when attached. The 16-50mm lens is big and has grippy zoom and focusing rings. For its size we'd have liked to see an AF/MF switch on the barrel, as we had to dive into the menu system to switch the X-A2 to manual focus, which slowed down shooting a little. Although the large sensor is a standout feature, the X-A2 was behind its competitors in some areas. The ISO range spans from 200-6400 in RAW and JPEG, but can be expanded to 100 or 25,600 in JPEG only. Wi-Fi is featured, though it lacks NFC, so takes a little longer to pair to a smart device after the initial setup. The 3in display had the lowest resolution on test at 920k-dot. It's also the only model to lack touchscreen operation, though we did like its ability to be tilted both up and down to assist with framing from awkward angles. One issue with the LCD performance was that it became less responsive in low-light conditions, creating a slight time-lag on the display – it was the only camera on test to struggle in this scenario.

TTL contrast-detect AF is featured and there are 49 AF-points to choose from. AF performance was a little slow however, and took a moment to find its subject. The write times were 0.79sec to clear a single JPEG and 1.45secs to clear a RAW file. Thirty-five continuous JPEGs could be fired before the buffer slowed and 3secs was taken to clear them. The X-A2 slowed after 10 images in RAW format and took 9.2secs to write them to card.

> **"A SECONDARY COMMAND DIAL MAKES IT EASY TO ADJUST SETTINGS"**

So the performance of the X-A2 may be a bit slower than its immediate rivals, but what it lacks in pace, it more than makes up for in character. We grew fond of its chunky build, and while it's noticeably smaller than a DSLR, its dimensions of 116.99x66.5x40.4mm make it really comfortable to hold and operate. There's a reassuring weight of 538g with the battery, SD card and lens included.

The X-A2 has large, knurled dials and bigger buttons than its rivals, so it's easier to adjust shooting settings if you have larger hands or are used to operating a DSLR. The large sensor should also produce better image quality than most of its rivals, but we'll touch on that later (see page 124).

The top-plate sees a pop-up flash in addition to a hotshoe for accessories such as a flashgun or wireless triggers. There's also a Mode dial with quick-to-access MASP modes, a shutter button with a power switch built around it and a Command dial. The secondary Command dial on the rear makes it easy to adjust settings like Exposure Compensation too. The bigger size makes handling a breeze, and the retro styling gives a chic look that suggests a higher price.

The X-A2 looks fantastic with retro-styling, metal top-plate and chunky dials.

The studded rear thumb pad gives good purchase in the hand and houses a Command dial too.

Twin Command dials, a hotshoe and chunky Mode dial enhance the build of the X-A2.

Quickspec

Street price £349 **Sensor** 16.3Mp APS-C
Mount Fujifilm X AF **System** TTL Contrast Detect
Burst rate 5.6fps **ISO range** 200-6400 (Can shoot 100-25600 JPEGs) **Monitor** 3in 920k-dot tiltable LCD
Video Full HD **Storage** SD SDHC and SDXC
Dimensions 116.9x66.5x40.4mm
Weight (body-only) 300g **Visit** www.fujifilm.co.uk

DIGITAL PHOTO Verdict

Pros Handles well, APS-C sensor, extensive Fujifilm X lens range

Cons Bigger than rivals, slower AF and write speeds, screen is non-touch and only 920k-dot

FEATURES & BUILD	★★★★☆
PERFORMANCE	★★★☆☆
IMAGE QUALITY	★★★★☆
VALUE FOR MONEY	★★★★☆
OVERALL VERDICT	★★★★☆

Gear

NIKON

1 J5 & 10-30MM VR PD ZOOM LENS £299

Nikon's 1 J5 is the most portable CSC on test and you could easily be fooled into thinking some features have been scrimped on to achieve its small size. It boasts an impressive Hybrid Phase and Contrast autofocus system with a huge 171 AF points to choose from, and 105 of these are the faster phase-detection points. Autofocusing was quick, and only just beaten for acquisition speed by Panasonic's GF7. It has the fastest burst rate of the CSCs we looked at too, topping out at a blistering 60fps. A 4K movie option is another area its rivals failed to match.

> ## "THE 1 J5 HAS THE FASTEST BURST RATE ON TEST, TOPPING OUT AT 60FPS"

So what's the catch? Well, its sensor is a little on the small side. The CX chip is the smallest on test, and with 20.8Mp packed onto an area the size of a fingernail, this could lead to a detrimental ISO performance. But we'll look at image quality in a little while (see page 124).

The CX sensor has a crop factor of 2.7x, so the 10-30mm VR PD Zoom kit lens has a film-equivalent range of 27-81mm. The kit lens is portable, collapsing down to 3cm long when not in use, though it has a sole zoom ring with no dedicated ring to tweak manual focus. The zoom is electronic and takes a little getting used to, but it does mean you can change the focal length when shooting remotely via an App on a smart device.

On top you'll find the pop-up flash, Mode dial with MASP modes, Command dial with Movie record button, and a shutter button with integrated power lever. The power lever is spring-loaded so it feels as though it should control the electronic zoom action of the lens. The 1 J5 also takes a moment to power up, so we'd often initiate the lever during the pause and accidentally turn the camera off! It's fair to say this lever duped us a few times – so a power switch or toggle would have been preferred.

Round the back of the 1 J5 you'll find the 3in, 1037k-dot touch display. It's beautifully clear and a joy to compose with – flipping up and down to assist in framing. To the right of the LCD is a D-Pad with an 'F' button for fast access to main exposure parameters. The D-Pad Multi Selector wheel also doubles up as a secondary Command dial. This allows easy control of exposure parameters and

The 3in display sits flush with the 1 J5's body but can be pulled out and tilted up or down to assist framing.

The Mode dial on top has MASP modes so you can shoot creatively quickly.

Quickspec

Street price £299 **Sensor** 20.8Mp CX CMOS
Mount Nikon 1 AF **System** Hybrid Phase and Contrast
Detect **Burst rate** 60fps **ISO range** 160-12800
Monitor 3in 1037k-dot tiltable touchscreen
Video 4K & Full HD **Storage** microSD microSDHC and
microSDXC **Dimensions** 98.3x59.7x31.5mm
Weight (body-only) 231g **Visit** www.nikon.co.uk

Exposure Compensation. The 1 J5 has slender dimensions of 98.3x59.7x31.5mm and weighs just 343g with lens, battery and microSD card in place. Although small, the 1 J5 handled better than some of the larger cameras on test. This is mainly thanks to its protruding front grip and chamfered rear thumb pad.

The 1 J5's write speeds weren't quite as quick as its AF lock-on times. RAW and JPEG times were identical, with 1.8secs taken to clear a single shot. When set to a 60fps burst, we could shoot 20 pics, and these took 19.7secs to clear for both JPEG and RAW files.

DIGITAL PHOTO Verdict

Pros Small and portable, rapid 60fps burst rate, 4K video, great LCD, affordable price

Cons Image quality, power lever takes a bit of getting used to

FEATURES & BUILD	●●●●●
PERFORMANCE	●●●●○
IMAGE QUALITY	●●●○○
VALUE FOR MONEY	●●●●○
OVERALL VERDICT	●●●●○

OLYMPUS

E-PL7 & 14-42MM II R LENS £399

LENS KIT BUNDLE EXCLUSIVE TO JESSOPS

O lympus has played a core role in the CSC movement since the beginning and its retro-styled E-PL7 is one of the firm's latest models to hit the shelves. Its Micro Four Thirds sensor sits between Nikon's small CX and Canon/Fuji's large APS-C chips in terms of size (Panasonic's GF7 also uses the Micro Four Thirds chip). The E-PL7 has a resolution of 17.2Mp and a crop factor of 2x, so the 14-42mm II R lens has a film-equivalent of 28-84mm when attached. We tested

"THE CHIC, RETRO STYLING WILL BE APPEALING TO MANY USERS"

the E-PL7 with the 14-42mm II R kit lens (exclusive to Jessops) which retails for £399, though it can purchased with the 14-42mm EZ lens for £429 elsewhere.

It's the only camera on test to feature sensor-based image stabilisation and this means that any lens attached will benefit from sharper hand-held pics at shutter speeds slower than normal. Its MFT mount is a huge advantage, as it gives access to a plethora of Olympus, Panasonic and third-party lenses when looking to expand your shooting options.

There's are 81 AF points to choose from and despite its AF system being Contrast-detect, we found the autofocus to be very nippy. It was only just beaten for pace by Panasonic's GF7. Its maximum burst rate of 8fps is the second fastest on test too, though there's quite a leap between this and the 20 RAWs you can shoot on the Nikon's 1 J5 at 60fps. The ISO spans from LOW (100) to 25,600 and it has a shutter range of 60secs-1/4000sec with a Bulb mode thrown in for longer exposures.

The E-PL7 has no pop-up flash but it does have a hotshoe to take a flashgun. Also on the top is the Mode dial with MASP modes, a shutter button with integrated Command dial and a power button.

The 3in 1037k-dot LCD is clear and can be tilted up by 80° for low-angle shots or down by 180° for self-portraits or high-angle compositions. The LCD also has touchscreen capabilities so you can tap to focus and flick through pics. The display doesn't sit flush with the camera so its dimensions are quite big at 114.9x67x38.4mm. The retro-styled E-PL7 is larger than many rivals, though the

The touch display can be tilted up by 80° or down by 180° to help you compose at awkward angles.

Quickspec

Street price £399 **Sensor** 17.2Mp Micro Four Thirds	
Mount MFT AF **System** Contrast Detect	
Burst rate 8fps **ISO range** LOW (100)-25600	
Monitor 3in 1037k-dot tiltable touchscreen	
Video Full HD **Storage** SD SDHC and SDXC	
Dimensions 114.9x67x38.4mm	
Weight (body-only) 309g **Visit** www.olympus.co.uk	

A hotshoe and Mode dial with MASP options give the E-PL7 the functionality of a DSLR.

chic design will be appealing to many. The E-PL7 balances well in the hand, partly due to the very lightweight kit lens and its grippy focus and zoom rings. The body grip secures it to your hand, though an angular bottom corner digs into your palm and makes it a little uncomfortable to use for long periods.

We were impressed by the write times of the E-PL7. It managed to clear a single JPEG in 0.68sec and slowed after 25 JPEGs, taking 1.9secs to write the files to card. A RAW took 1.25secs to write and slowed after 15 files with 6.25secs taken to write them.

Verdict

Pros Fast autofocus and write times, 8fps burst rate, great LCD, sensor-based IS, image quality, retro-styling, vast MFT lens range

Cons Quite large for a CSC, no pop-up flash

FEATURES & BUILD	★★★★☆
PERFORMANCE	★★★★★
IMAGE QUALITY	★★★★★
VALUE FOR MONEY	★★★★★
OVERALL VERDICT	★★★★★

PANASONIC
GF7 & 12-32MM MEGA OIS LENS £341

P anasonic's GF7 is one of the most portable cameras we looked at, with a weight similar to a can of drink. Not only was it the lightest CSC we got our hands on, it has an equally diminutive physique, measuring 106.5x64.6x33.3mm. It boasts a 16Mp Micro Four Thirds chip which has a 2x crop factor. This means the 12-32mm ASPH Mega O.I.S kit lens has a film-equivalent of 24-64mm. The lens has no physical manual focus ring, though it collapses down to just 2.7cm long without the need for a lens lock – it just pops in and out by twisting the zoom ring. Like Olympus' E-PL7, the 12-32mm kit lens attaches via a Micro Four Thirds mount, so you have access to the full range of MFT optics when augmenting your camera kit.

There's no grip on the front of the GF7 so like Canon's EOS M10, it's a little slippy in the hand. The user interface is easy to navigate though, and rarely were we left wondering where a specific setting was hiding.

The 3in screen on the back is bright and sharp with a resolution of 1040k-dots. The display can be tilted upwards by 180° for self-portraits and low-to-the-ground compositions. But we'd have liked a screen that could be flipped down too, to make it easier to compose at higher angles. The ability to tilt the screen down was present on the GF6 model and we're a little baffled as to why this feature has been left out on this incarnation. The touchscreen nature of the display is

> ## "ITS RAPID AUTOFOCUS SYSTEM BLEW ITS COMPETITORS AWAY"

fantastic as you can tap to set a focus point anywhere on the frame. You can also change the size of the AF point easily by pinching the screen or using the D-Pad. The wheel built around the D-Pad acts as the sole Command dial to adjust your exposure settings.

When it came to autofocus, the GF7 blew the competition away. Its Contrast-detect AF system was responsive and was able to lock on to a subject instantly. It even beat the Hybrid AF systems on test.

On top there's a pop-up flash, customisable Function button and an Intelligent Auto button. There's also the shutter with its integrated On/Off switch for a fast power-up, and a Mode dial with MASP modes.

The 3in 1040k-dot touch display can be tilted up 180° for self-portraits or low-angle framing.

Quickspec
Street price £341 **Sensor** 16Mp Micro Four Thirds **Mount** MFT AF **System** Contrast Detect **Burst rate** 5.8fps **ISO range** 200-25600 (Expandable to 100) **Monitor** 3in 1040k-dot tiltable touchscreen **Video** Full HD **Storage** SD SDHC and SDXC **Dimensions** 106.5x64.6x33.3mm **Weight (body-only)** 236g **Visit** www.panasonic.com/uk

You can access your creative MASP and focus modes quickly from the top-plate.

One small niggle is that the pop-up flash switch is a little hard to get at because it sits so close to the display on the rear. This made it tricky to engage.

Write speeds on the GF7 weren't as nippy as the AF. Initially we were impressed with a time of 0.76sec taken to clear a single JPEG, but this slowed to 2.7secs for a solitary RAW file. The GF7 could also only manage 10 continuous JPEGs before slowing, and these took 1.9secs to write to card. A burst of just seven RAW files was all it took to fill the buffer, and these took 5.7secs to write to the memory card.

DIGITAL PHOTO Verdict

Pros Fastest autofocus on test, large MFT lens range, clear screen, touch functionality

Cons Screen only flips one way, slow write times, no front grip to get a good purchase on

FEATURES & BUILD	●●●●○
PERFORMANCE	●●●●○
IMAGE QUALITY	●●●●●
VALUE FOR MONEY	●●●●●
OVERALL VERDICT	●●●●●

The cameras' image quality compared

To inspect the image quality of each CSC we carried out several extensive tests both in the field and in our studio. The cameras were mounted on a tripod with any image stabilisation systems disengaged. We then aimed each at a lens test chart to assess the whole frame for sharpness, lens distortion, vignetting and chromatic aberration at both ends of the zoom, throughout the aperture range. We also framed up on a colourful subject and took shots through the ISO range to compare quality.

NIKON 1 J5
Image quality ●●●○○

ISO 400 | ISO 1600 | ISO 6400

Sharpness
The new 10-30mm PD VR lens impressed with good sharpness across the frame even at f/3.5 at the wide end. Zooming into 30mm we saw an equally impressive level of sharpness, but pincushion distortion made the pic look like it was bending into the middle a little.

ISO performance
The 1 J5 has quite a lot of pixels crammed onto a small sensor so rather unsurprisingly the ISO performance didn't fare as well as its rivals. Details were slightly waxy from the lowest ISO of 160 and we were reluctant to shoot above ISO 400 due to higher levels of Noise.

CANONS EOS M10
Image quality ●●●●○

ISO 400 | ISO 1600 | ISO 6400

Sharpness
With the 15-45mm STM kit lens, images from the EOS M10 were a little soft at 15mm at the widest aperture, and we spotted some vignetting too, though this disappeared at f/9. At 45mm, sharpness was much improved even at the widest aperture of f/6.3.

ISO performance
The large APS-C chip in the EOS M10 meant a good level of detail was captured at its lowest setting of ISO 100. We saw a small amount of Chroma Noise at ISO 200 and this became much more noticeable at higher values such as 1600, making shots look rather unsightly.

OLYMPUS E-PL7
Image quality ●●●●●

ISO 400 | ISO 1600 | ISO 6400

Sharpness
There was hardly any barrel distortion at the 14mm end of the kit lens and no vignetting. The lens have a solid sharpness across the frame at 14mm, f/3.5, and again at 42mm with the aperture fully opened. We noted no lens distortion or vignetting at 42mm either.

ISO performance
The E-PL7 doesn't have the largest sensor on test, yet it handled Noise remarkably well. We saw a great level of detail at ISO 200, and although images were slightly waxy at ISO 1600 they still looked clean and very usable with no chroma specks in sight.

FUJIFILM X-A2
Image quality ●●●●○

ISO 400 | ISO 1600 | ISO 6400

Sharpness
The XC16-50mm showed a slightly soft centre and corners at both ends of the zoom when set to its widest aperture. It sharpened up at f/9, but in-camera processing over-sharpened the JPEGs resulting in a fine, white halo appearing around high-contrast edges.

ISO performance
The Fuji's large APS-C chip meant there was a strong level of detail captured at its lowest ISO value of 100, and its images were very clean even at high values such as 1600. The X-A2 is superb for low-light photography due to its fantastic ability to control Noise.

PANASONIC GF7
Image quality ●●●●●

ISO 400 | ISO 1600 | ISO 6400

Sharpness
The 12-32mm lens gave a good sharpness across the frame at 12mm when shooting wide open, though there was a tiny amount of chromatic aberration and barrel distortion. At 32mm the distortion vanished and we saw strong sharpness at the widest aperture.

ISO performance
Although the GF7 shares the same sized chip as Olympus E-PL7, it just didn't seem to match its high level of detail at lower ISO values. Digital Noise was quite fine but apparent at ISO 200 and 400 and we saw small specks of Chroma Noise here too.

The results are in...

CANON
EOS M10 & 15-45MM IS STM KIT LENS £399

Canon's EOS M10 is the newest CSC the firm makes , and some of its latest and greatest features really caught our eye. We like the clean styling and the screen which boasts touch functionality. Its Wi-Fi and NFC capabilities also made it easy to tether to a smart device. Its image quality impressed too, thanks to the large APS-C chip. But, stopping it from reaching the top slot was its lack of grip on the front – the smooth plastic made it hard to get a firm hold. It also would have benefited from a physical Mode dial, as navigating menus to choose Aperture priority slowed down shooting. The 4.6fps burst rate was also quite slow.

FUJIFILM
X-A2 & XC16-50MM OIS II KIT LENS £349

Fujifilm's X-A2 is large but it sits well in the hand, and its retro-styling isn't just for show – the knurled dials and chunky buttons are ergonomic and make it easy to adjust your exposure settings quickly. Its APS-C chip is large and handled digital Noise well at high ISOs, though image quality was hindered by its lens, which gave softer results than its competitors when shooting at the largest aperture. The X-A2 was great to use, but lagged behind our winner, with a more relaxed approach to autofocus, slower file write times and a lower-resolution monitor which lacked touchscreen functionality.

NIKON
1 J5 & 10-30MM VR PIEZO DRIVE ZOOM LENS £299

The 1 J5 is small and mighty. It's the most portable CSC we got our hands on, yet it packs in a stack of desirable technology. Its maximum burst rate of 60fps for 20 RAW files is astounding and a feat unmatched by other CSCs on test. It's also the only camera we looked at capable of recording 4K videos, so is certainly worth considering if you want this ability. However, stopping it from reaching the top spot was its ISO performance – we could only shoot up to an ISO of 400 before seeing obvious digital Noise, and there was some pronounced pincushion distortion at the long end of the zoom too.

OLYMPUS
E-PL7 & 14-42MM II R LENS £399

Olympus' E-PL7 really impressed us and romped home with our coveted *Digital Photo* Gold Award this month. We loved its nippy write times and fast autofocusing performance, and the tiltable LCD's touchscreen technology made it a breeze to take pictures. Its 8fps burst rate isn't a match for the 60fps of Nikon's 1 J5, but it's still more than twice as fast as some entry-level DSLRs. The Micro Four Thirds mount gives access to a huge range of lenses, and all will benefit from the E-PL7's sensor-based stabilisation. It may not be the smallest CSC we looked at, but it's still smaller than a DSLR, delivers fantastic image quality and looks pretty cool too!

PANASONIC
GF7 & 12-32MM LENS £341

Just pipped to the post by its Olympus rival this month was Panasonic's GF7, but it comes in a deserved second place. The quickest AF performance was found in this tiny, pocketable camera, and its LCD is bright and clear and sports touchscreen functionality for speedy operation. It's just a shame the screen doesn't flip both ways like that of our winner. Its write speeds were a little slower and the optics weren't quite as sharp as the E-PL7, but if your budget only stretches to £341 or if you're after a really small CSC, Panasonic's Lumix GF7 won't disappoint.

RICOH GR II / PREMIUM COMPACT / £599

POCKET POWER

With high-spec features in a tiny body, could the RAW-shooting Ricoh GR II be the ultimate premium compact?

BY MATTY GRAHAM

Premium compacts have the potential to offer you the best aspects from all camera systems. DSLR-style modes and high-spec features open the door to creative imagery, but the small build gives the portability of a point-and-shoot. As the name suggests, the GR II is the replacement for Ricoh's GR compact, which was launched in early 2013. After almost three years on the market and facing competition from rivals such as the Fuji X100T and Nikon Coolpix A, Ricoh has updated the GR with a raft of new features. Are these updates enough to convince current Ricoh users to trade up or will they attract new users looking to swap bigger cameras for a more portable option? Let's find out…

Features & Build

While Ricoh has added some new features, there's also a fair amount of spec that hasn't changed from the original GR. It sports the same 16.2Mp APS-C CMOS sensor and the original GR V image processor. The 18.3mm f/2.8 fixed-focal-length lens remains, as does the ISO range of 100 to 25,600. The big new addition to the GR II is Wi-Fi, which allows you to quickly transfer images to a smart device and then share them on the internet, all while you are still out in the field. The addition of NFC (Near Field Communication) technology means the camera can be triggered and the settings changed remotely via the Image Sync app. This can be downloaded free from iOS and Android app stores. Also new with the GR II is the bigger RAW buffer. While the original GR could handle four RAW files while shooting in its burst mode, the GRII increases that figure to 10 – good news for those capturing action sequences.

The styling of the camera is modern and functional, with none of the retro chic of its main rival, Fuji's X100T. Build quality is good – the casing is magnesium alloy and has a pleasing textured finish. Where the design really comes into its own is in the compact dimensions, though. Measuring just 63x117x34mm and weighing 251g (with battery), the GR II is shorter than an iPhone. As with the original, the GR II includes a built-in flash with a modest Guide Number of 5 (m, ISO 100). This is perfectly good for low-light shots of subjects close to the camera. For extended lighting options, there's also a hotshoe flash mount. While an external flashgun may prove too top-heavy for the GR II, a trigger to use off-camera flash

> ## "FOR MORE CREATIVE IMAGES, THE GR II OFFERS NO LESS THAN 17 PICTURE EFFECT MODES, INCLUDING RETRO AND HDR"

would sit comfortably and bring creative lighting opportunities.

For different picture styles, there are 17 Picture Effect modes, ranging from Retro, which gives a vintage film effect with muted colours, to Miniaturise that helps the image look like it was taken with a Tilt/Shift lens. Of particular note is the HDR effect that offers the kind of processing look you'd get with bespoke HDR software. Although it would have compromised the GR II's tiny dimensions, some users will bemoan the absence of a built-in Electronic Viewfinder (EVF). However, if you don't enjoy composing from the vibrant 3in LCD, an external EVF accessory – the GV-1 EVF – is available for around £130 and slots into the hotshoe mount.

Test shot

100% detail

Image quality Detail & lens
Overall image quality from the Ricoh GR II is high, with the RAW files holding a vast range of tonal information that can be used to recover detail in over or underexposed areas. JPEGs are nicely saturated with no over-sharpening. The lens returns its sharpest results at f/11 and offers a smallest aperture of f/16. Barrel distortion is evident when you get close to a subject, but this is normal for a wide angle lens. Chromatic aberration is very well controlled and pleasing bokeh is produced when the largest aperture of f/2.8 is used.

Small, but perfectly formed. The 16Mp Ricoh GR II offers great image quality in a compact body.

Key features of the Ricoh GR II

Fast lens
The 28mm (film equivalent) lens offers a maximum aperture of f/2.8 and locks on to subjects in just 0.2sec.

Connectivity
With Wi-Fi and NFC technology, the GR II can be paired easily with smart devices to shoot remotely or transfer images.

Hotshoe accessory port
Along with a pop-up flash, the Ricoh boasts a hotshoe mount that can host a flash trigger or an external Electronic Viewfinder.

Ergonomic button layout
The buttons and dials are well spaced, and the addition of a focus mode lever switch and AF-ON button speeds up operation.

Quickspec

Street price £599
Resolution 16.2Mp (4928x3264px)
Sensor APS-C CMOS (35.9x24mm)
Autofocus system TTL detection system
Focusing modes Multi, Single Shot AF, Continuous AF, Manual Focus, Face detect
Metering Multi-segment, Centre-weighted or Spot
Burst rate 4fps **Flash** Yes
ISO range 100-25,600
Shutter range 300secs -1/4000sec & Bulb
Monitor 3in, 1230k dot TFT LCD
Video Full HD (1920p) @ 30, 25, 24p
Write speeds 1.8sec (RAW), 0.7sec (Large Fine JPEG)
Storage SD, SDHC, SDXC
Weight 251g (body-only)
Dimensions (WxHxD) 117x63x35.7mm
Visit www.ricoh-imaging.co.uk

Performance

The Ricoh slips in and out of your pocket with ease and its small size means you really can take it anywhere. The 1.7secs startup time of the original GR has been slashed to just 1sec on the GR II. By pressing the well-placed On/Off button as the camera is pulled from a pocket, it's ready to shoot when raised up to the eye. In the field, the effective focal length of 28mm is perfect for capturing wide views, but if you need more reach, the GR II has a 35mm and 47mm crop mode. The downside is this does reduce resolution and image quality. Those seeking a wider focal length can purchase a 21mm wide conversion lens accessory for around £150.

With a main dial featuring PASM exposure modes and a big shutter button, capturing images with the GR II is a breeze. More advanced settings are a little harder to locate and change, however. The Menu navigation takes a while to get used to and can't be described as intuitive as you have to scroll a fair way to find all the feature options.

Switching between Single-shot and Continuous AF is easy thanks to the lever switch on the rear of the camera, and within this switch is a large button that acts as an AF-On function. This allows you to set focus with your thumb

There are plenty of accessories available for the GR II, including an EVF and wide-angle lens converter.

Image quality ISO, JPEG & RAW image test results

In both RAW and JPEG format, the GR II handles digital Noise well. Images don't suffer from Noise until ISO 1600 and are still usable at ISO 3200. In very dim lighting, RAW images taken at ISO 6400 can still be used, provided you apply Noise Reduction in RAW software. After ISO 6400, image degradation is quite visible and the ISO 25,600 setting is for emergency use only, as the speckling and grain becomes pronounced and unsightly.

ISO 100 | ISO 1600 | ISO 6400 | ISO 12,800 | ISO 400

> "THE RICOH SLIPS IN AND OUT OF YOUR POCKET WITH EASE & ITS SMALL SIZE MEANS YOU REALLY CAN TAKE IT ANYWHERE"

before shooting. Exposure Compensation is also simple to change thanks to a +/- button on the rear. The ergonomic layout helps speed up your photography, ensuring you don't miss a shot, and this, paired with the discreet design of the camera, will appeal to street photographers.

Adjusting settings such as ISO, focus and metering is fast, thanks to a dual-action command wheel on the rear. The wheel can be flicked left and right, but also pressed in like a regular button. This means you don't have to take your finger from the shutter.

For such a small camera, the APS-C format sensor size is large, but files still record to the memory card at a decent rate. Our tests timed single RAW files at 1.8secs, while Large JPEGs took just 0.7sec to write to the card.

Value for money

With a price-tag of £599, the GR II is around £240 cheaper than its closest rival, the Fuji X100T. Both cameras offer 16Mp sensors, but the GR II has a wider focal length (28mm vs 35mm). But then the X100T hits back with a faster maximum aperture of f/2 compared to the Ricoh's f/2.8.

The magnesium alloy build, fast aperture and great image quality help to justify the cost of what adds up to be a very desirable compact, so value for money is reasonable. The Nikon Coolpix A (also a 16Mp compact with a 28mm fixed lens) is more affordable at around £349, but it lacks a number of the GR II's tricks – Wi-Fi, integrated ND filter and long shutter speed (300secs vs 30secs) to name but three. The lack of an EVF is a niggle, but the GR II is still a great investment for those seeking good image quality and creative controls in a compact form.

DIGITAL PHOTO Verdict

Combining high-spec features and great image quality into a tiny body makes the GR II a tantalising proposition. For those after a highly portable, take-anywhere camera that's no more intrusive than a smartphone, it can slip into a pocket but offers cutting-edge features like RAW capture, a full suite of creative controls and a fast aperture of f/2.8. There are shortcomings though. Navigating the Menu system isn't as intuitive as it could be, and unless you crave Wi-Fi connectivity, there's not enough to tempt existing GR users into upgrading. However, those new to premium compacts will fall in love with this petite camera that works brilliantly in the field. More feature-packed than Nikon's Coolpix A, and more affordable than Fuji's X100T, if you're on the hunt for a creative compact, the GR II is hard to beat.

Features & build	★★★★☆
Performance	★★★★☆
Image quality	★★★★☆
Value for money	★★★★★
Overall score	★★★★☆

ADOBE ELEMENTS 14 / IMAGING SOFTWARE / £79.10

EDITING CHOICE

We take a look at the new and improved features packed into Adobe's popular, consumer-friendly imaging software

TEST BY ANDY HEATHER

Photoshop Elements is the cut-price version of Adobe's ubiquitous Photoshop photo-editing software. It's aimed at consumers rather than professionals, and even though it doesn't offer the full feature set of its bigger brother, there's plenty of functionality packed into this beginner-friendly package.

Unlike Photoshop CC, a monthly subscription isn't required, so it's a popular choice for those who prefer to pay up front for their software.

Elements comes in two parts, Organizer and Editor. The latter also includes a pared-down version of Adobe Camera Raw for processing RAW files. The Organizer is used for viewing and sorting your files. The files are stored on your hard drives and Organizer finds and displays them for you. It can also filter your shots into categories based on People and Events. It includes a tool for browsing your files on a map based on where they were shot, although to make the most of this you'll need to shoot pics on a GPS-enabled camera.

New features

Introduced into the Elements Editor for the first time in this update is the Auto Shake Reduction feature. Previously available only to Photoshop CC users, the tool is designed to improve shots marred by camera shake. Adobe has marketed it at people who take selfies at arm's length, although in our tests it also improved (but didn't completely fix) the effects of slight camera shake in a range of handheld and low-light shots. Of course, software fixes are no

> "THE ADDITION OF FEATURES FROM PHOTOSHOP CC MAKES ELEMENTS EVEN BETTER VALUE FOR MONEY"

substitute for getting shots sharp in-camera, but the addition of features from Photoshop CC makes Elements even better value for money.

Another feature new to Elements 14 that has been inherited from the full Photoshop is the Auto Haze Removal tool. This is designed to add definition to misty or hazy areas of your shots. We found it worked best when used to cut through airborne moisture in landscapes, making the background as crisp as what's up front. However, it's also good for summer holiday snorkelling shots taken in cloudy water.

The last of the new features is called Smart Looks. This tool analyses your images and presents a selection of five suitable edits. Each of these 'looks' combines adjustments to aspects like contrast, colour and vignetting and is in-keeping with the current popularity of retro effects in photography. The tool cleverly sidesteps the mistake of offering the user too many options, which can put off newcomers and cause confusion. It's an approach that will be familiar to anyone who has tweaked their shots using a tablet or smartphone app – you simply click on the preview you like and the effect is applied.

Improved features

Although the list of brand new features isn't huge, it's important to take a look at how many features have been given a polish since Elements 13. Among these is an improved Quick Edit Mode that's designed to make common tools like crop and straighten even easier to find. In this mode, there are also now 34 Guided

Auto Shake Reduction

When shooting with a slow shutter speed or a long lens, sometimes your camera moves while the shutter is open. This movement will be recorded on the image and can cause what's known as 'camera shake'. Up until now it hasn't been fixable. However, with the introduction of Adobe's Shake Reduction technology, there is a chance that those shaky shots could be recovered. The tool, located in **Filters→Sharpen→Shake Reduction** will intelligently auto-detect the path of the blur and use this to restore your image. The success rate is hit and miss, but if you're hoping to recover a shot and don't mind that the end result doesn't look absolutely pixel-perfect when viewed at 100%, it's definitely worth a try.

Smart Looks

The Smart Looks feature analyses your photo and selects five effects that it thinks will complement your shot from a database of 2500.

Edits to help you through the steps required to make common edits. These Guided Edits aren't true teaching tools – they don't explain the reasons for each step as you go – but you are able to switch to Expert mode to analyse your Layers when the edit is complete. In doing so you are able to work out for yourself why each stage was vital to the final effect achieved.

Another improvement focuses on the Refine Edge tool, which has now been spun off into its own brush called the Refine Selection Brush. It's designed to be brushed over complex edges containing hair or fur and intelligently attempts to make a Selection around them. The tool isn't foolproof, but it can certainly speed up tricky Selections. And the fact that it is now a Brush, rather than a refinement option nested in the Tool Options bar for other Selection tools should make it more accessible to newcomers.

The Elements 14 Organizer face recognition algorithm has also been updated to make it better at recognising people. As you add new photos, Elements Organizer will analyse faces and automatically add shots to a person's stack. The tool has an improved 'hit rate', so we found we spent less time amending the tags and more time editing. How often you choose to browse your files in this way will depend how many portraits and family events you shoot.

Automatic Haze Removal

Before

After

The Auto Haze Removal tool uses localised exposure and contrast adjustments to reduce the appearance of low contrast factors like mist or atmospheric haze in your shots.

As with other edits, for the best results you'll need to use a RAW or uncompressed image file, rather than a compressed JPEG. Using it is extremely simple, so what would previously have required complex selective adjustments is now a two-stage process.

To use it, open a picture in Elements 14 in the Quick or Expert modes by going to **File→Open** and double-clicking on your image. With the image open, click **Enhance→Auto Haze Removal**. To increase the power of the effect, simply repeat this step.

DIGITAL PHOTO Verdict

Elements 14 is a feature-rich and user-friendly app at a reasonable price, but existing users may want to wait for the next update. This is an incremental improvement on its predecessor and is highly recommended for new users.

Rating ★★★★★

GADGETS&GIZMOS

We review the latest photo accessories to hit the shelves

TESTS BY JON ADAMS, ANDY HEATHER & DAN MOLD

PRIME LENS / £579

Tamron 45mm f/1.8 USD VC

Features 9 diaphragm blades, weight 540g, filter thread size 67mm **Visit** www.tamron.co.uk

Tamron's latest 45mm prime lens drops 5mm short of the more regular 50mm 'standard', but it offers a large maximum aperture of f/1.8. This creates opportunities for shallow depth-of-field images, low-light pictures, or both. Unlike other standard primes, the lens sports an optical Vibration Compensation (VC) system to offer sharper shots at slower shutter speeds. This boosts its usefulness in low-light conditions, and the VC works well, offering sharp shots at around 3 stops slower than normal. With this lens, you can handhold at shutter speeds around 1/8sec and still get a sharp image (provided your subject isn't moving, of course).

"TAMRON'S 45MM F/1.8 HAS OPTICAL STABILISATION FOR SHARPER HANDHELD SHOTS"

The lens is a premium model with an all-metal build and a highly-refined feel. Build quality is excellent, and it's sealed to offer moisture resistance too. The large focusing ring is smooth and positive in operation, and switching to manual focus is easy thanks to a well-positioned AF/MF switch that falls under your left thumb. Beneath this is the VC switch, and it's easy to tell by feel whether it's engaged or not.

The lens boasts both eBand and Fluorine coatings. The former suppresses reflections to reduce flare and ghosting, and the latter repels oil and water, so removing finger smudges and raindrops is easy. The eBand coating is impressive, and retains a high degree of contrast even when shooting into the light.

A great feature is the minimum focusing distance of just 29cm. This allows frame-filling close-ups, and with large apertures, you can

Tamron's 45mm f/1.8 sports a Vibration Compensation system and weather sealing.

Used at its widest aperture of f/1.8, the Tamron 45mm allows creative shots with super-sharp results at the point of focus, which fall away to a soft, diffused blur.

get highly creative with the depth of sharpness. While immediately appealing for portraits, it's also effective for nature, still-life and abstract shots, so for a prime lens, it's highly versatile. Image quality is impressive throughout the aperture range, though we noted some vignetting at the largest apertures. Chromatic aberration was well controlled, and on our test charts, was only just visible in the corners – again at wider

apertures. But to be fair, these issues are so easy to fix in RAW that they're not a concern.

This is a tremendous lens that's a joy to use, and the only downside is the price. It is big, heavy and bulky compared to 50mm offerings from Nikon and Canon, but at £579, it's much more expensive (Nikon's 50mm f/1.8 is £135, and Canon's 50mm f/1.8 STM is £97). There's no doubting its excellent performance, and the exotic coatings and VC work beautifully. But only you can decide whether the extra features are worth the high price. If you shoot handheld, contre-jour images in dim light, it's worth the money, but if you're more of a general photographer, better value can be found in own-brand primes.

Verdict

Tamron's 45mm f/1.8 boasts a performance to match its excellent build quality. The VC system and top-notch lens coatings work well, but you do have to pay for them.

Rating ★★★★☆

Kontrast Pro DSLR Backpack

Features Dimensions 31x23.4x47cm, weight 1.76kg, 25-year warranty **Visit** www.caselogic.com/en/gb

The Case Logic Kontrast is a large, ruggedly built bag with enough capacity to hold pretty much every piece of gear an enthusiast is likely to own. It has a sizeable main compartment containing sturdy Velcro dividers for customising the layout. This has enough space for a DSLR and up to eight lenses, although that would be a heavy load to carry. One of the backpack's standout features is its 'hammock-style' camera support system. The top flap gives instant access to your camera, which is suspended through a square of neoprene. The lens goes through a hole in the middle and the camera body rests on the neoprene. That means your valuable lens is dangling free and doesn't have the weight of the camera body resting on it. It's long enough for a pro, 70-200mm f/2.8 lens and means your lens will never hit the floor when you put the bag down.

This bag's other noteworthy feature is its water-resistant DuraBase. This hard plastic shell offers protection from the ground, even if it's wet. There's a gap between the cushioned interior floor of the bag and the base, so you can put the bag down anywhere without worrying that your precious gear will be shaken by the impact. The base also increases stability, helping the bag to remain standing wherever you place it.

On top of these features there's a dedicated compartment for a tablet or small laptop, and side stretch pockets which can house a water bottle or small tripod. Additional pockets in the top and front of the bag offer secure places to organise accessories like filters, memory cards and batteries.

If you prefer to travel light and in comfort, this bag's probably not for you – the straps aren't the most cushioned we've seen, and although the hard plastic base protects kit well, we really felt it dig into our lower back after a day's shooting. If you regularly take a lot of gear into the field however, and want to keep it well protected, the Case Logic Kontrast Pro is definitely one to consider.

PHOTO Verdict

Protection is paramount with the Kontrast Pro, but it's a little uncomfortable to wear all day.

Rating ★★★★☆

WD My Passport Ultra

Features 500GB, 1TB, 2TB and 3TB capacities, password protection **Visit** www.wdc.com

Western Digital's seventh generation of the My Passport hard drive is the Ultra. These are highly portable, bus-powered external hard drives, so no additional mains plugs or power adaptors are required. After its capacity, small size and uncluttered design, the standout feature has to be the included software. The WD SmartWare app makes it a breeze to back up your drive to the Cloud or a Dropbox account, while WD Security lets you easily lock the drive with a password. WD Drive Utilities also makes it simple to format it for use with Windows or Mac computers.

The My Passport Ultra models have USB 3.0 functionality which allows photos and files to be transferred at a blisteringly fast maximum rate of 5GB/s. Don't worry if your machine doesn't have a USB 3.0 port, as the drives are backwardly-compatible with USB 2.0 (if you're not sure which USB ports your computer has, you can find out on p107).

The Ultra is available in 500GB, 1TB, 2TB or 3TB capacities, and there are four different colour variations – black, white, red and blue. If you want to personalise your drive, you can purchase a WD Grip Pack for £12. This wraps a colourful band around the edge of the drive, and offers some protection too. Supplied with the Grip Pack is a flat USB cable in the same colour, to keep your desk looking fashionably co-ordinated!

External drives are essential for storing and backing up images, and at just £50 for 1TB, the Ultra is highly recommended.

PHOTO Verdict

The large capacities up to 3TB and plug-and-play, bus-powered design makes the My Passport Ultra easy to use, and the backup and password protection apps make it a smart buy.

Rating ★★★★★

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Ink Cartridges

We carry one of the largest ranges of printer ink cartridges in the UK, with cartridges in stock for practically every inkjet printer. We always stock Original cartridges, which are made by your printer manufacturer, and in many cases we also offer Compatible cartridges, which are usually made by a UK company called Jet Tec. Using Jet Tec Compatibles is a way of saving money, without compromising on the quality of your prints.

Here are the results from two independent ink tests that agree...

Digital Ink Test Winner ★★★★

"Jet Tec's colours were superb, with single greys and blacks very close to Epson... so Jet Tec wins!"
- Total Digital Photography Magazine

"What we're looking at here is not only the best choice of ink for the R300 printer, but also the best choice of ink in this group test, period. There's just no getting away from the superb combination of performance and pricing."
- Computer Upgrade Magazine

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Originals:
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Compatibles:
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Lexar HR1 Workflow Hub	£49.99
Delkin USB2 Card Reader	£9.99
Delkin USB3 Card Reader	£19.99
Delkin SD Card (x8) Case	£6.99
Delkin CF Card (x4) Case	£6.99

Batteries

Replacement rechargeable Li-ion batteries, manufactured by Hahnel or Blumax. All come with a two-year guarantee.

NB-2L/LH for Canon	£9.99
NB-4L for Canon	£9.99
NB-5L for Canon	£9.99
NB-6L for Canon	£9.99
NB-7L for Canon	£9.99
NB-9L for Canon	£9.99
NB-10L for Canon	£12.99
NB-11L for Canon	£12.99
BP-511 for Canon	£12.99
LP-E5 for Canon	£9.99
LP-E6 for Canon	£16.99
LP-E8 for Canon	£12.99
LP-E10 for Canon	£12.99
LP-E12 for Canon	£12.99
NP45 for Fuji	£9.99
NP50 for Fuji	£9.99
NP95 for Fuji	£9.99
NPW126 for Fuji	£12.99
NP400 for Fuji	£12.99
EN-EL3E for Nikon	£14.99
EN-EL5 for Nikon	£9.99
EN-EL9 for Nikon	£12.99
EN-EL10 for Nikon	£9.99
EN-EL11 for Nikon	£9.99
EN-EL12 for Nikon	£9.99
EN-EL14 for Nikon	£19.99
EN-EL15 for Nikon	£24.99
EN-EL19 for Nikon	£9.99
EN-EL20 for Nikon	£12.99
EN-EL21 for Nikon	£12.99
Li10B/12B for Olympus	£9.99
Li40B/42B for Olympus	£9.99
Li50B for Olympus	£9.99
BLM-1 for Olympus	£12.99
BLN-1 for Olympus	£24.99
BLS-1 for Olympus	£12.99
BLS-5 for Olympus	£15.99
CGR-S006 for Panasonic	£9.99
CGA-S007 for Panasonic	£9.99
DMW-BCG10 Panasonic	£19.99
DMW-BCM13 Panasonic	£19.99
DMW-BLB13 Panasonic	£27.99
DMW-BLC12 Panasonic	£23.99
DMW-BLD10 Panasonic	£23.99
DMW-BLG10 Panasonic	£22.99
DMW-BMB9 Panasonic	£22.99
D-Li90 for Pentax	£12.99
D-Li109 for Pentax	£12.99
SLB-1137D for Samsung	£12.99
SLB-1674 for Samsung	£12.99
BG-1 for Sony	£19.99
BX-1 for Sony	£14.99
BY-1 for Sony	£12.99
NP-FM500H for Sony	£19.99
NP-FH50 for Sony	£19.99
NP-FW50 for Sony	£24.99

Battery Grips
Professional battery grips, made by Hahnel.
5DMkII for Canon	£84.99
5DMkIII for Canon	£84.99
6D for Canon	£84.99
7D for Canon	£84.99
70D for Canon	£84.99
650D/700D for Canon	£84.99
D600 for Nikon	£84.99
D800/D810 for Nikon	£84.99
D3300/D5300 for Nikon	£74.99
D7100 for Nikon	£84.99

Battery Chargers
Universal Chargers
Unipal ORIGINAL	£19.99
Unipal PLUS	£24.99
Unipal EXTRA	£29.99

AA & AAA Chargers
Hahnel TC Novo inc. 4xAA	£8.99
Energizer Pro inc. 4xAA	£14.99
Energizer 1 Hr inc. 4xAA	£22.99

Other Batteries
Pre-Charged Rechargables
AA GP Recyko 3+1 FREE	£5.24
AAA GP Recyko 3+1 FREE	£5.24
AA Energizer Extreme (4)	£8.99
AAA Energizer Extreme (4)	£6.99

Standard Rechargeables
AA GP 2600mAh (4)	£5.99
AA Lloytron 1300mAh (4)	£3.99
AA Lloytron 2700mAh (4)	£6.99
AAA Lloytron 1100mAh (4)	£3.99

Lithium Batteries
AA Energizer Ultimate (4)	£5.99
AAA Energizer Ultimate (4)	£5.99
CR123A Energizer (1)	£1.99
CR2 Energizer (1)	£1.99
2CR5 Energizer (1)	£3.99
CRP2 Energizer (1)	£3.99
CRV3 Energizer (1)	£5.99
A544 Energizer Alkaline (1)	£1.99
A23 Energizer Alkaline (1)	£1.99
LR44 Energizer Alkaline (2)	£1.99
CR2025, CR2032 etc	£1.99

Filters

One of the largest ranges of screw-in threaded filters in the UK, from Hoya, Kood and Marumi. We carry sizes from 24mm, up to 105mm, and offer Clear Protectors, UVs, Skylights, Circular Polarisers, ND4s, ND8s, ND16s, ND32s, ND64s, ND500s, ND1000s, Variable NDs, Starbursts, Close Up Sets and more! Below are just a few examples...

KOOD Slim Frame UV Filters
37mm	£4.99
40.5mm	£4.99
46mm	£4.99
49mm	£4.99
52mm	£4.99
55mm	£5.99
58mm	£6.99
62mm	£7.99
67mm	£8.99
72mm	£9.99
77mm	£11.99
82mm	£14.99
86mm	£19.99

KOOD Slim Frame Circular Polarisers
37mm	£12.99
40.5mm	£12.99
46mm	£12.99
49mm	£12.99
52mm	£14.99
55mm	£15.99
58mm	£17.99
62mm	£19.99
67mm	£22.99
72mm	£26.99
77mm	£29.99
82mm	£34.99
86mm	£39.99

KOOD ND4 & ND8 Filters
52mm	£26.99
58mm	£34.99

Marumi DHG Slim Frame Multi-coated Clear Protectors
37mm	£10.99
43mm	£10.99
46mm	£10.99
49mm	£10.99
52mm	£10.99
55mm	£11.99
58mm	£12.99
62mm	£14.99
67mm	£15.99
72mm	£17.99
77mm	£19.99
82mm	£22.99

Marumi DHG Slim Frame Multi-coated UV Filters
52mm	£13.99
58mm	£15.99
62mm	£17.99
67mm	£19.99
72mm	£21.99
77mm	£24.99

Marumi DHG Slim Frame Multi-coated Circular Polarisers
52mm	£31.99
58mm	£35.99
62mm	£39.99

Hoya HMC Slim Frame UV Filters
37mm	£12.99
40.5mm	£12.99
46mm	£12.99
49mm	£11.99
52mm	£11.99
58mm	£14.99
62mm	£16.99
67mm	£18.99
72mm	£21.99
77mm	£25.99
82mm	£29.99

HOYA Pro-1D Slim Frame Multi-coated Clear Protectors
52mm SPECIAL	£16.99
58mm	£28.99
62mm	£31.99
67mm	£35.99
72mm	£39.99
77mm SPECIAL	£29.99
82mm	£49.99

HOYA Pro-1D Slim Frame Multi-coated Circular Polarisers
52mm	£52.99
58mm	£60.99
62mm	£67.99
67mm	£75.99
72mm	£90.99
77mm SPECIAL	£79.99
82mm	£120.99

Square Filters

We stock three widths of square filters: A-type (67mm wide), P-Type (84mm wide) and Z-Type (100mm wide). Made in the UK, Kood square filters are optically flat, with excellent colour density, neutrality and stability. They received a maximum 5 star rating from Digital Camera Magazine.

P-Type: 84mm wide filters
Standard Holder	£5.99
Wide Angle Holder	£6.99
Filter Wallet for 8 filters	£9.99
Adapter Rings 49-82mm	£4.99
Circular Polariser	£27.99
ND2 Solid	£12.99
ND2 Soft Graduated	£13.99
ND2 Hard Graduated	£13.99
ND4 Solid	£12.99
ND4 Soft Graduated	£13.99
ND4 Hard Graduated	£13.99
ND8 Solid	£14.99
ND8 Soft Graduated	£15.99
ND8 Hard Graduated	£15.99
Light Blue Graduated	£12.99
Dark Blue Graduated	£12.99
Light Tobacco Graduated	£12.99
Dark Tobacco Graduated	£12.99
Light Sunset Graduated	£14.99
Dark Sunset Graduated	£14.99
Starbursts x4, x6, x8	£17.99
Red/Green/Yellow each	£14.99
Six-piece ND Filter Kit	£59.99

A popular kit containing an ND2, ND2 Soft Grad, ND4, ND4 Soft Grad, Filter Holder, plus Adapter Ring of your choice (49-82mm).

Z-Type: 100mm wide filters
Pro Holder	£24.99
Adapter Rings 52-95mm	£8.99
ND2 Solid	£16.99
ND2 Soft Graduated	£17.99
ND2 Hard Graduated	£17.99
ND4 Solid	£16.99
ND4 Soft Graduated	£17.99
ND4 Hard Graduated	£17.99
ND8 Solid	£18.99
ND8 Soft Graduated	£19.99
ND8 Hard Graduated	£19.99
Light Blue Graduated	£17.99
Dark Blue Graduated	£17.99
Light Tobacco Graduated	£17.99
Dark Tobacco Graduated	£17.99
Light Sunset Graduated	£18.99
Dark Sunset Graduated	£18.99

A-Type: 67mm wide filters
Standard Holder	£4.99
Adapter Rings 37-62mm	£8.99
ND2 Solid	£10.99
ND2 Graduated	£11.99
ND4 Solid	£10.99
ND4 Graduated	£11.99
ND8 Solid	£11.99
ND8 Graduated	£12.99

Lens Accessories

Bayonet-Fit Lens Hoods
ES-62 Canon 50/1.8	£9.99
ES-71II Canon 50/1.4	£9.99
ET-60 Canon 75-300/4-5.6	£9.99
ET-65B Canon 70-300/4-5.6	£9.99
ET-67 Canon 100/2.8 Macro	£9.99
ET-67B Canon 60/2.8	£9.99
EW-60C Canon 18-55 IS	£7.99
EW-63C Canon 18-55 IS STM	£9.99
EW-73B Canon 18-55 IS	£9.99
EW-78BII Canon 28-135 IS	£9.99
EW-78D Canon 18-200 IS	£9.99
EW-78E Canon 15-85 IS	£12.99
EW-83E Canon 17-40/4.0	£12.99
HB-32 Nikon 18-105 VR	£7.99
HB-45 Nikon 18-55 VR	£7.99

Stepping Rings
25mm to 105mm	
160 different sizes	£4.99-5.99

Reversing Rings
52mm to 77mm	
Canon, Nikon, Sony, Olympus and Pentax	£9.99-19.99

Coupling Rings
49mm-77mm	£9.99-£11.99

Screw-Fit Lens Hoods
37mm Rubber Hood	£3.99
40.5mm Rubber Hood	£3.99
43mm Metal Hood	£5.99
46mm Rubber Hood	£3.99
46mm Metal Hood	£5.99
49mm Rubber Hood	£3.99
49mm Shaped Petal Hood	£6.99
52mm Rubber Hood	£3.99
52mm Shaped Petal Hood	£6.99
55mm Rubber Hood	£3.99
55mm Shaped Petal Hood	£6.99
58mm Rubber Hood	£3.99
58mm Shaped Petal Hood	£6.99
62mm Rubber Hood	£4.99
62mm Shaped Petal Hood	£7.99
67mm Rubber Hood	£4.99
67mm Shaped Petal Hood	£7.99
72mm Rubber Hood	£5.99
72mm Shaped Petal Hood	£9.99
77mm Rubber Hood	£5.99
77mm Shaped Petal Hood	£9.99

Lens Caps
Lens Caps Centre-Pinch	£2.99
Body & Rear Lens Caps	£3.99

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Helmet Strap	£12
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Used Nikon D4 body box	£2999
Used Nikon D3X or D3s body each	£1899
Used Nikon D3 body box	£1299
Used Nikon D800 body box	£1199
Used Canon 11-24mm f4 L USM M- box	£2299
Used Canon 24mm f1.4 LII M- box	£949
Used Canon 24-70mm f2.8 LII M- box	£1199
Used Canon 85mm f1.2 LII USM	£899
Used Canon 100-400mm f4.5/5.6 L IS USM	£699/899
Used Canon 300mm f2.8 L IS USM	£2999
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BRONICA SQ 6x6 USED
SQA complete £279; SQ complete £199; SQ + 80 F2.8 PS + 120RFH £269; 40 F4 S £299; 50 F3.5 S £149; 135 F4 PS M £249; 150 F3.5 S £99; 150 F4 PS £149/199; 200 F4.5 PS M box £199; 2x PS converter M £179; 36mm ext tube £79; 135N back £139; SQAi Polaroid back £79; SQAi 120 RFH £79; SQA 120 RFH £49; Plain Prism S Boxed £69; AE Prism Early £79; ME Prism Finder £69; Metz SCA 386 £49; Pro shade S £59; Lens Hood 65 80 £20; SQAi Motorwinder £149; Speed grip S £69

CANON DIGITAL AF USED
1DX body box £3499; 1D MKIV body box £1799; 1D MKIV body £1399; 1D MKIII body box £699; 7D body £399/469; 5Ds body Mint unused £2699; 5D MKIII body box £1699; 5D MKII body box £699/999; 5D MKI body box £349; 70D body box £579; 60D body £399; 50D body box £279; 40D body £179; 600D body box £249; 550D body box £199; 450D body £179; 1000D body £179; BG E1 £29; BG E2 £39; BG ED3 £39; BG E4 £69; BG E5 £149; BG E6 £119; BG E7 £99; BG E8 £79; G1X MKII M box £379; G10 compact £99; EOS M kit £299

CANON AF USED
EOS 1V HS body box £599; EOS 1V HS body £499; EOS 1HS body £149; EOS 3 + PB E2 £239; EOS 3 + BP E1 £199; EOS 3 £149; EOS 1n body £129; EOS 3 body £129; EOS 600/650 body ea £39; 10 22 F3.5/4.5 U £349; 11 24 F4 L M box £2299; 17 40 F4 L £399; 17 85 F4/5.6 £199; 18 55 F3.5/5.6 IS EFS £89; 18 55 F3.5/5.6 IS STM £89; 18 55 F3.5/5.6 EFS £59; 24 f1.4 LII M box £949; 24 F2.8 IS USM £369; 24 70 F2.8 LII M box £1199; 24 70 F2.8 box £699; 24 70 F4 L box £579; 24 105 F4 L £499; 28 F1.8 USM box £299; 28 90 F3.5/5.6 £79; 28 135 F4/5.5 box £199; 35 135 F3.5/4.5 £129; 40 F2.8 STM £89; 50 F1.4 U box £199; 50 F1.8 MKI £149; 50 F1.8 MKII £49; 50 F2.5 macro box £129; 55 250 F4/5.6 ISII M box £129; 60 F2.8 EFS mac £229; 70 200 F2.8 LI IS box £899; 70 200 F4 IS U L £699; 70 200 F4 U L £349; 70 300 F4/5.6 L IS U £749; 70 300 F4/5.6 IS U £279; 75 300 F4/5.6 MKIII £199; 85 F1.2 L MKI £899; 85 F1.8 M £199; 100 300 F4/5.6 USM £129; 100 400 F4.5/5.6 L IS U £699/899; 135 F2 M box £639; 200 F2.8 LII U £449; 300 F2.8 LI IS U £2999; 300 F4 L IS USM box £699; 400 F2.8 L IS U £3799/3999; 400 F5.6 L box £699; 500 F4 L IS U £3499/3799; 1.4x extender MKII £199; 2x extender MKII £199; Teleplus 2x DG conv £89; Kenko ext tube set DG £89; Jessops ext tubes £69; LC 4 wireless kit £89; PB E2 drive £99; PB E1 drive £69; Tripod mnt adapt A (W) £59

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OTHER CAF USED
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CONTAX MF USED
40 80 F3.5 AE £199; 50 F1.4 AE £199; 135 F2.8 MM £199

FUJI DIGITAL USED
X Pro 1 body box £299; X E1 body silv box £199; X M1 body blk box £189; 16 50 F3.5/5.6 XC M £179; 18 F2 M box £249; 18 55 F2.8/4 £299; 27 F2.8 XF £249; 35 F1.4 M box £329; Samyang 8 F2.8 £199; EF X20 flash £99; X E1 grip box £49; X100s silv box £449; X30 silv M box £269; X20 black box £229; X10 black box £179

FUJI MED FORMAT USED
GSW690 III £649

HASSELBLAD XPAN USED
XPan II + 45 box £1499; 30 F5.6 M box £1699; 90 F4 M £249/299; Centre filter 49mm £129

HASSELBLAD 645 USED
HM 16/32 back £199

HASSELBLAD 6x6 USED
903SWC chr + 38 + VF £1799; SWC Superwide + VF £1199; PM5 prism 45° £149; PME prism box £149; 45° Prism late £149; 45° Prism early £69; NC1 prism £69; WLF late £110; WLF chrome late £99; WLF early £49; A12 chrome latest £299; A12 late blk/chr £129; 50 F4 blk T* £349; 60 F2.8 chrome £249; 250 F5.6 chrome £199; Vivitar 2x conv £69; Polariser 60mm £79

LEICA M COMPACT USED
50 F1.4 6 light £1199; 90 F2 black E55 £799; 135 F4 £699

LEICA SLR USED
R6.2 body chr box £449; 50 F2 3 cam £299; 70 200 F4 (3 cam) £249; 250 F4 (3 cam) £399; Angle finder R £149

LIGHTMETERS USED
Minolta Autometer IVF £149; Minolta Flashmeter V £199; Minolta Spotmeter M £199; Sekonic L308 £99; Sekonic L558 £249

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Plain prism (645 Super) £39; WLF 645N/1000S/J £49; WLF Pro TL etc £79; Polaroid Back HP401 £29; Polaroid back £29; 120 Insert £20; HA401 120 RFH Box £69; 120 Back £39 Winder £79; 50 F4 shift £399; 55 110 F4.5 box £299; 150 F2.8 A £249; 150 F3.5 N £79; 210 F4 N M £79; Ext Tube 1, 2, 3S each £29; Teleplus 2x converter £49; Vivitar 2x converter £39

MAMIYA TLR 6x6 USED
C330 F Body + WLF £149; 55 F4.5 £199; 65 F3.5 box late £199; 65 F3.5 serviced £149; 80 F2.8 late serviced £139; 180 F4.5 £149; 250 F4.5 late serviced £249; 250 F4.5 early serviced £179; Prism £99; Paramender £49

MAMIYA 7 RF 6x7 USED
7II body champagne £799; 50 F4.5 L + VF £699; 80 F4.5 L M box £699; 150 F4.5 M £399; 210 F8 + VF box £499; Panoramic kit £49

MAMIYA RB 6x7 USED
Pro SD + 127 KL + RFH + WLF £549; Pro SD comp M £649; Pro S body £149; Pro S body scruffy £69; WLF £79; 120 645V back £99; 90 F3.5 KL £249; 127 F3.5 KL £199; Ext tube 2 £49

MAMIYA RZ 6x7 USED
RZ ProII + 90 + WLF £499; 120 RFH £99; RZ Pro body £149; 120 RFH Pro II £69; 120 RFH Pro I £49; Polaroid back £69; Chimney £199; WLF £79; FE701 AE prism £179; Winder II £120; 50 F4.5 W £199; 65 F4 box M £399; 90 F3.5 W M box £299; 127 F3.5 box £299; 180 F4.5 W box £199; Pro shade £49

MINOLTA/SONY DIGITAL USED
Sony RX100 III box £399; Sony RX10 MKII M box £899; Sony A7 R + grip £849; Sony A900 body box £399; Sony A350 body £139; Sony VGB30AM £79; Sony VC C77AM M box £149; Sony VGC70AM £149; Sony HVLF56AM flash £189; Sony HVLF54AM flash £149; Sony HVLF520AM flash £179; Sony HVLF32X flash £79; Sony A6000 body blk £379

SONY NEX USED
NEX 7 body £299; NEX 5N + 18 55 £239; NEX 5 body £179; 10 18 F4 OSS M box £499; 18 55 F3.5/5.6 £99; 55 210 F4.5/6.3 OSS £149

MINOLTA/SONY AF USED
9000 body £79; 800Si body £99; 700Si + VC700 £69; 700Si or 7xi body ea £69; Dynax 5 body £39; 505Si Super £25; 300Si or SPXi body ea £19; 18 70 F3.5/5.6 £69; 20 35 F3.5/4.5 M box £249; 24 50 F4 £149; 24 105 F3.5/4.5 AFD box £179; 28 F2.8 £99; 28 80 F4/5.6 £39; 28 85 F3.5/4.5 £99; 28 100 F3.5/5.6 D £49; 35 70 F4 £39; 35 70 F3.5/4.5 £29; 35 80 f4/5.6 £25; 35 105 F3.5/4.5 £99; 50 F1.7 AF £99; 50 F2.8 macro £169; 75 300 F4.5/5.6 £99; 100 300 F4.5/5.6 APO £169; 500 F8 mirror £349; VC9 grip £149; VC700 grip £49; RC1000S/L cord £15; AW90 £29; MD90 + BP90 M £79

SONY LENSES USED
16 35 F2.8 ZASSM box £899; 16 50 F2.8 SSM £249; 16 70 F4 ZA OSS M box £599; 18 55 F3.5/5.6 SAM £59; 18 200 F3.5/6.3 DT £199; 24 70 F2.8 ZE SSM £799/899; 28 70 F3.5/5.6 FE £359; 70 400 F4/5.6 SSM 11 £1149; 1.4x conv M box £149

SIGMA MIN/SONY AF USED
28 135 F3.8/5.6 £79; 28 300 F3.5/6.3 mac £149; 50 F1.4 £149; 50 F2.8 EX DG mac £149; 55 200 F4/5.6 £69; 70 300 F4/5.6 DG OS £189; 600 F8 £299; 1.4x EX DG conv £99; 2x EX DG conv £159

TAMRON NAF USED
10 24 F3.5/4.5 Dill £229; 17 35 F2.8 XR Di £169; 17 50 F2.8 XR Di £199; 18 250 F3.5/6.3 £179; 24 70 F2.8 DC £499; 70 300 F4/5.6 £79

OTHER NAF USED
TOK 11 16 F2.8 ATX Pro £349; TOK 12 28 F4 ATX DX £399; TOK 16 50 F2.8 ATX Pro £349; TOK 80 400 F4.5/5.6 ATX £249; ZEISS 21 F2.8 ZFII £899

NIKON DIGITAL AF USED
D4 body box £2999; D3s body £1899; D3X body box £1899; D3 body box £1299; D2Xs body box £399; D2X body box £69; D800E body box £1199; D800 body box £1199; D700 body box £599/699; D610 body box £849; D600 body M box £799; D300 body box £249/299; D200 body box £199; D7100 body box £549; D7000 body £299; D5000 body £169; D50 body box £49; MBD 11 £149; Coolpix P7800 compact £249

NIKON AF USED
F5 body £199; F4 body £349; F4E body £129; F4S body £199/399; F801s body £99; F801 body £29/59; F601 body £29; 12 24 F4 DX £449; 14 24 F2.8 AFS £999; 16 85 F3.5/5.6 AFS VR £299; 17 55 F2.8 AFS £449; 18 55 F3.5/5.6 VRII £99; 18 135 F3.5/5.6 AFS DX £149; 18 200 F3.5/5.6 AFS VRII £399; 18 200 F3.5/5.6 AFS VRI £299; 20 F2.8 AF £299/329; 24 F1.4 AFS M box £899; 24 F2.8 AFD £249; 24 50 F3.5/4.5 AF £149; 24 70 F2.8 AFS box £899/999; 24 120 F3.5/5.6 AFS VR £299; 28 80 F3.3/5.6 G Mint box £69; 28 85 F3.5/4.5 af £119; 28 100 F3.5/5.6 AF G £99; 28 105 F3.5/4.5 AFD box £149; 35 F1.4 AFS M box £999; 35 F1.8 AFS M £119; 50 F1.4 AFD £179; 50 F1.8 AFD £99; 50 F1.8 AF £99; 60 F2.8 AFD £249; 70 200 F2.8 AFS VRII £1299; 70 200 F2.8 AFS VRI £749; 70 300 F4/5.6 VR M £329; 70 300 F4/5.6 AFD £149; 80 200 F2.8 AFD N £599; 80 200 F2.8 early £249/329; 80 400 F4.5/5.6 AFS £1599; 80 400 F4.5/5.6 VR £999; 85 F1.4 AFS M box £999; 85 F1.8 AFD M box £269; 85 F1.8 AF £169; 105 F2.8 VR £479; 105 F2.8 AFD M £399; 180 F2.8 AFD M box £449; 300 F2.8 AFS VRI £2699; 300 F4 AFS box £899; 400 F2.8 AFS E FL ED VR £7499; 400 F2.8 AFS non VR Grey £3399; 500 F4 AFS VR £4799; 500 F4 AFS Mk1 £2699/2999; TC14EII box £239; TC17EII box £239; TC20EIII M box £329; TC20E box £149; Kenko MC7 £69

SIGMA NAF USED
10 20 F4/5.6 DG HSM £199; 12 24 F4.5/5.6 DG box £199; 18 50 F2.8 EX DC Mac £199; 18 125 F3.5/5.6 £199; 18 200 F3.5/6.3 DC box £149; 18 250 F3.5/6.3 DC mac OS £199; 28 300 F3.5/6.3 early £129; 50 F1.4 DG Mint £199/239; 50 150 F2.8 EX OS M box £399; 50 500 F4/6.3 DG OS £649; 50 500 F4/6.3 DG £499; 70 F2.8 EX Macro £149; 70 300 F4/5.6 Apo DG £99; 105 F2.8 EX DG £229; 120 400 F4.5/6 DG OS £449; 170 500 F5/6.3 DG £349; 1.4x EX DG M £99; 1.4x EX conv £99; 2x EX DG conv £159

FLASH / ACCESSORIES USED
SB 24 £69; SB 25 £49; SB 28 £69; SB 80DX £79; SB 800 box £189; SB 700 M box £149; SB 900 £269; SD 8 batt pack £49; DR 6 angle finder £149; DR 3 angle finder £99; MB 16 M box £89; MB 23 (fits F4) £29; MC 30 remote £39; MF 23 (date back F4) £179

NIKON MF USED
F chr + Photomic head £249; F2 + DP 1 blk £199; F3HP body £199; F3 body £149; FM2n body chr £199; FM2n body blk £199; FM body blk £99; EM body £29; 24 F2 AIS £299; 28 F3.5 AI £199; 28 85 F3.5/4.5 AIS £199; 35 F2 AI £199; 35 70 F3.3/4.5 AIS £149; 35 105 F3.5/4.5 AIS £99; 50 F1.8 AIS £139; 50 F1.8 AIS pancake £139; 50 F1.8 E £99; 85 F2 AI £149; 180 F2.8 AIS ED scruffy £199; 200 F4 AIS macro £279; 200 F4 AIS £99; 500 F8 £299; 600 F5.6 ED AIS £799; TC14A £129; TC14B £149; TC200 £49; TC201 £69; TC301 £199; PN 11 box £99; SC 17 TTL lead £25; DW 4 6x mag find fit F3 £99; PK 13/PK 12 ext tube ea £29

OLYMPUS DIGITAL USED
E3 body box £349; E620 body £149; E300 body £69; 11 22 F2.8/3.5 M £399; 12 60 F2.8/4 SWD £399; 14 42 F3.5/5.6 £49; 14 45 F3.5/5.6 £199; 14 50 F3.8/5.6 £199; 14 54 F2.8/3.5 £179; 33 F3.5 £99; 40 150 F4/5.6 £49; 50 F2 macro £299; 70 300 F4/5.6 box £179; 25mm ext tube £79; Sigma 105 F2.8 EX DG M £249; FL 36R flash £99; FL 36 flash £79

OLYMPUS PEN USED
OMD EM1 body M box £699; OMD E M5 body box £349; OMD EM10 body £259; Pen E PM1 + 14 42 M £149; Pen E PM1 body £99; Pen E P3 body £169; 17 F2.8 £129; 75 300 F4.8/6.7 II £299; HLD 7 grip M £99; HLD 6 grip £99

PANASONIC DIGITAL USED
LX7 compact £129; LX7 viewfinder £99; G3 body £129; GF2 body £79; GF1 body £79; 14 F2.5 £169; 14 42 F3.5/5.6 £79; 14 45 F3.5/5.6 £149; 20 F1.7 £179; 35 105 F4/5.6 Asph box £199; 45 175 F4/5.6 M box £239; 100 300 F4/5.6 £349; BG GH3 grip £149

PENTAX DIGITAL AF USED
K20D body £199; DBG2 grip £69

PENTAX 35mm AF USED
16 50 F2.8 £499; 17 70 F4 SDM M box £349; 18 55 F3.5/5.6 £29; 18 250 F3.5/6.3 £179; 20 35 f4 box £269; 70 F2.8 AL £59; 28 80 F3.5/5.6 £49; 28 90 F3.5/5.6 FA £69; 40 F2.8 Limited M £249; 50 135 F2.8 SDM £499; 55 F1.4 SDM M £499; 55 300 F4/5.8 ED box £229; 70 F2.8 Limited £349; 70 200 F4/5.6 £69; 70 300 F4/5.6 £79

SIGMA PKAF USED
10 20 F4/5.6 EX DC £239; 12 24 F4/5.6 EX DG Mint £499; 35 F1.4 Art box £499; 105 F2.8 EX DG M box £329; TAM 17 35 F2.8 XR Di £199

PENTAX 645AF USED
645N body £399; 120 insert £149

PENTAX 645MF USED
645 + 75 F2.8 £249; 645 body + insert £199; 45 85 F4.5 £249; 55 F2.8 £249; 150 F3.5 EX++ £149; 200 F4 £149; 120 Insert M box £149

PENTAX 67 USED
45 F4 £249; 165 F4 leaf latest £249; 200 F4 latest £169; 200 F4 early £99; 300 F4 early scruffy £99; Pentax rear conv 1.4x £249; 2x rear converter £179; Auto ext tubes £49; Vivitar 2x conv £49

SAMSUNG USED
NX30 + 18 55 blk £399; NX300 + 18 55 £249; NX10 + 18 55 £249; 30 F2 pancake M box £159; 50 200 F4/5.6 III M box £139; 60 F2.8 SSA M box £329

VOIGTLANDER USED
15 F4.5 + VF M box £299

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DIGITAL DOCTORS

The Digital Photo team salute a hero reader!

F or this month's Digital Doctor, we're doing things a little differently and celebrating the work of a reader truly worthy of this page's title.

Paul Fernandez is an Emergency Nurse Practitioner at the Heart of England Foundation Trust hospital in Birmingham. An avid reader of *Digital Photo*, Paul was experimenting with the free calendar templates that came in the November issue's mega gift bundle when a colleague suggested an idea that would put the templates to good use.

"My colleague knew I was a keen photographer and suggested we shoot a calendar to raise funds for a prostate cancer charity," he explains. As the condition affects men, Paul rounded up brave male volunteers from all corners of the hospital, including doctors, nurses and porters. They stepped forward to shed their uniforms in order to raise cash for this most worthy of causes.

Paul captured the images for the calendar using his Canon EOS 70D DSLR paired with a Sigma 18-50mm lens. Using a lighting setup comprising three Yongnuo YN-560 III flashguns, he shot in Manual mode and positioned his

models against a plain white wall. With the images opened in Photoshop, Paul added a texture to the plain background, before focusing attention on his plucky subjects by adding a vignette to the frame. For a fine-art finish, Paul then converted the portraits to mono to give a more artistic feel to the project. Each image was pasted into a calendar template and luckily, he had enough volunteers to cover all 12 months.

"*Digital Photo*'s calendar templates arrived just at the right time and I'm very excited and pleased about what we've all created – this is a first for

our hospital," says Paul. "We will be selling the calendars across three hospitals in Birmingham and handing over all the money raised from this project to Prostate Cancer UK."

● **Digital Doctor says** If you can't make it to Paul's hospital to pick up a copy of his fantastic calendar, you can still donate to the cause by visiting *www.prostatecanceruk.org*

Well done Paul, we tip our hats to your endeavours and we're glad the calendar templates are having such a positive impact.

Before

Paul used our free templates to create his charity calendar.

Your Title Goes In Here

Contact Digital Doctor

To send one of your problem pics to our Digital Doctor, email it to *dpimages@ bauermedia.co.uk* and tell us about the shot: where it was taken, why you took it and what you were looking to achieve. Include a mugshot of yourself with your picture, and the best entries will be published and receive some digital surgery from our resident Photoshop guru!

Ten Squared

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